

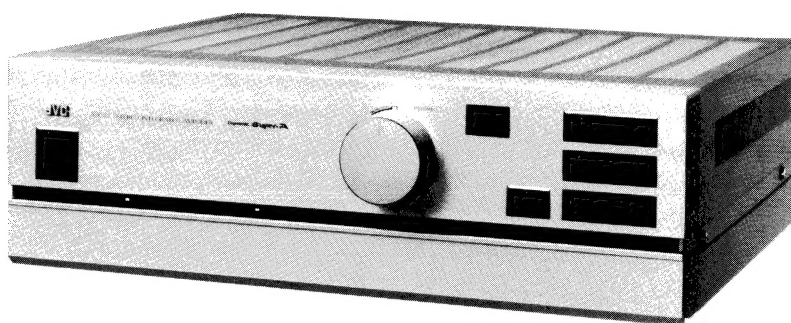
JVC

SERVICE MANUAL

MODEL

A-X55

STEREO INTEGRATED AMPLIFIER



No. 2589
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		for Designated Areas	22

Warning: When replacing the parts marked with \triangle , be sure to use the designated parts to ensure safety.

1. Specifications

CIRCUITRY

Preamplifier	: ICL, DC-servo MC/MM equalizer with EL-FETs in its initial stage
Power amplifier	: 3-Stage differential ICL-DC "Dynamic Super-A" power amplifier with cascode-connected dual FETs and a boot-strap amp in its initial stage

ALLOVER CHARACTERISTICS

Output power (AUX IN — SP. OUT)	
1 kHz	: 75 watts RMS per channel min. (8 ohms, 0.0007 % total harmonic distortion measured by JVC Audio Analyze System)
	: 83 watts RMS per channel min. (8 ohms, 0.7 % total harmonic distortion)
20 Hz — 20 kHz	: 70 watts RMS per channel min. (both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.003 % total harmonic distortion.)
Total harmonic distortion	
AUX IN — SP. OUT	: 0.003 % (20 Hz—20 kHz, 8 ohms) at 70 watts
PHONO IN — SP. OUT	
at Volume — 30 dB	: 0.007 % (20 Hz—20 kHz, 8 ohms) at 70 watts
Intermodulation distortion	
(AUX IN — SP. OUT)	: 0.002 % (60 Hz: 7 kHz = 4 : 1, 8 ohms) at 70 watts
Power band width	: 5 Hz—60 kHz (IHF, 0.02 %, (AUX IN— SP. OUT) 8 ohms both channels driven)
Frequency characteristic	: DC—300 kHz + 0, — 3 dB (8 ohms)
Damping factor	: 150 (1 kHz, 8 ohms)
Input terminals	
Input sensitivity/impedance (1 kHz)	
PHONO (MM)	: 2.5 mV/47 kohms
PHONO (MC)	: 180 μ V/100 ohms
TUNER	: 160 mV/47 kohms
AUX	: 160 mV/47 kohms
TAPE	: 160 mV/47 kohms

Signal-to-noise ratio

PHONO (MM)	: 86 dB
PHONO (MC)	: 70 dB (250 μ V input)
TUNER	: 110 dB
AUX	: 110 dB
TAPE	: 110 dB
(IHF A Network short circuit)	
PHONO (MM)	: 84 dB (Rec out)
PHONO (MC)	: 76 dB (Rec out)
TUNER	: 84 dB (Speaker out)
AUX	: 84 dB (Speaker out)
TAPE	: 84 dB (Speaker out)
(IHF A-202)	
Tone controls	: TREBLE: \pm 8 dB (10 kHz)
	: BASS: \pm 8 dB (100 Hz)
Subsonic filter	: 18 Hz (— 6 dB/oct)
Loudness control	: 100Hz: + 6dB, 10kHz: + 4dB (at VOLUME — 30 dB)
Muting level	: — 20 dB

EQUALIZER

PHONO overload capacity	
PHONO (MM)	: 250 mV (1 kHz, 0.004 % THD)
PHONO (MC)	: 15 mV (1 kHz, 0.008 % THD)
PHONO RIAA deviation	: \pm 0.2 dB (20 Hz—20 kHz)
Total harmonic distortion	
PHONO (MM)	: 0.004 % (at 8 V output, 20 Hz—20 kHz)
PHONO (MC)	: 0.008 % (at 8 V output, 20 Hz—20 kHz)

Recording output

Output level/impedance	
TAPE REC-1,2	: 160 mV/660 ohms (PHONO)

GENERAL

Power source	: See page 22
Dimensions	: 5-1/2''(H) x 17-1/8''(W) x 15-7/8''(D)
	: (14.0 cm(H) x 43.5 cm(W) x 40.4 cm(D))
Weight	: 22.0 lbs. (10 kg)

Design and specifications subject to change without notice.

2. Technical Explanation of "Dynamic Super-A"

2-(1) Basic Configuration of "Dynamic Super A" Power Amplifier

This basic configuration is as shown below.

Newly developed "isolate drive circuit" and "wave correction circuit" are added to the conventional Super A bias circuit. In addition, newly developed IC exclusive for Dynamic Super A is employed in the Super A bias circuit.

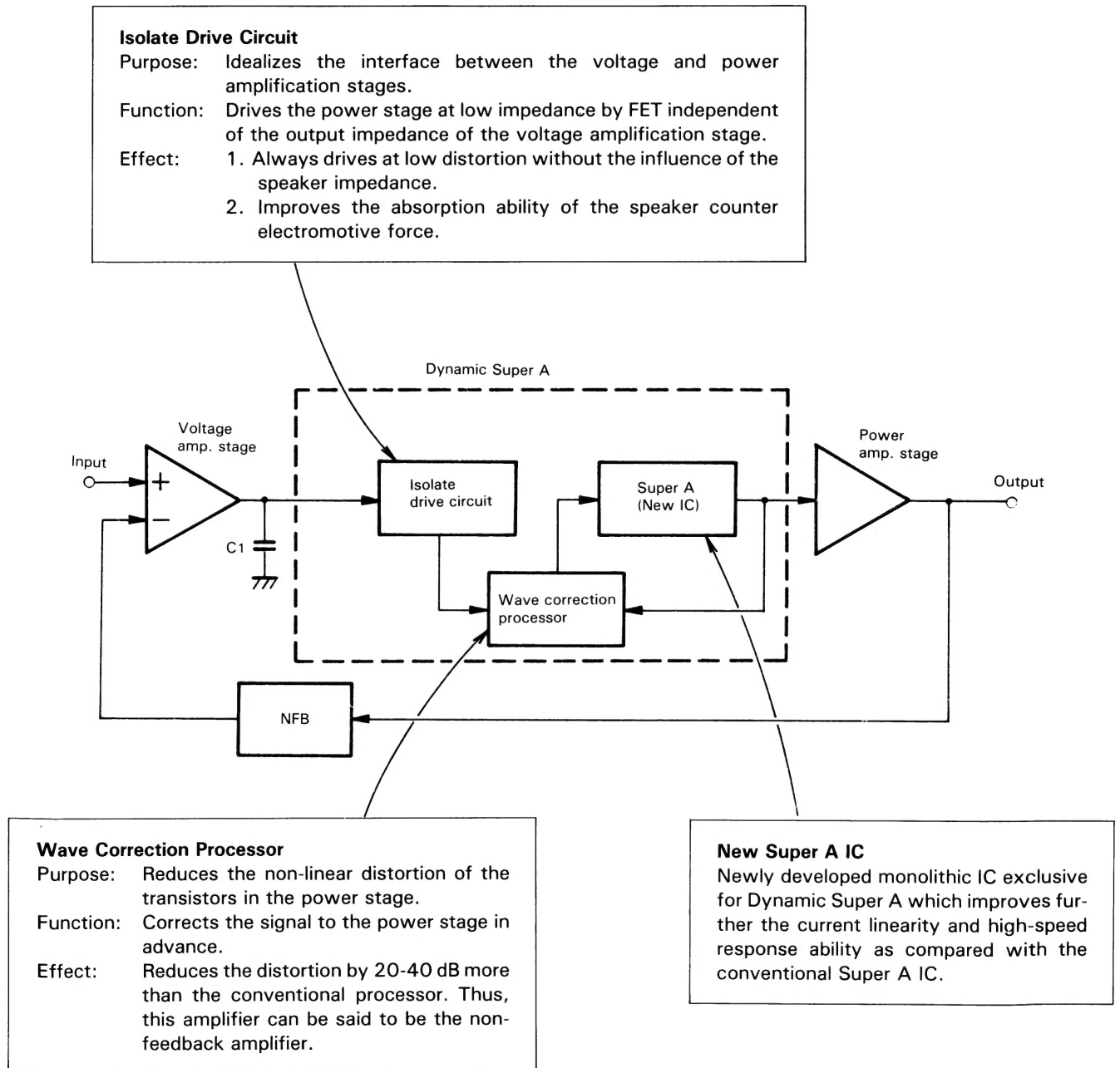


Fig. 1 Block Diagram of Dynamic Super A

2-(2) "Dynamic Super A" Circuit Operation

1. Isolate Drive Circuit

This circuit is basically an FET source-follower circuit. In A-X55, adequate dielectric strength is assured by the cascode connection between Q501 2SK170 (BL, V) and Q505.

Q503 is a constant current circuit which determines the current flowing in zener diode D509 RD2.7EB2 which determines the cascode voltage of Q501 and Q505.

Q507 is a constant current circuit which determines the current flowing in Q501.

2. Wave Correction Processor Circuit

This circuit decreases the non-linear distortion in the power stage. It converts into a current the non-linear distortion voltage detected by emitters of Q515 2SC2240 (GR, BL) and Q517 2SA970 (GR, BL). This conversion current is applied across R509 (270Ω) to the input signal in anti-phase to deny the distortion.

Thus, the distortion is reduced by 20-40 dB.

3. New Super A IC

The basic operation of this IC is the same as that of the conventional Super A IC. This new Super A IC is a monolithic IC exclusive for Dynamic Super A with further improved current linearity and faster response.,

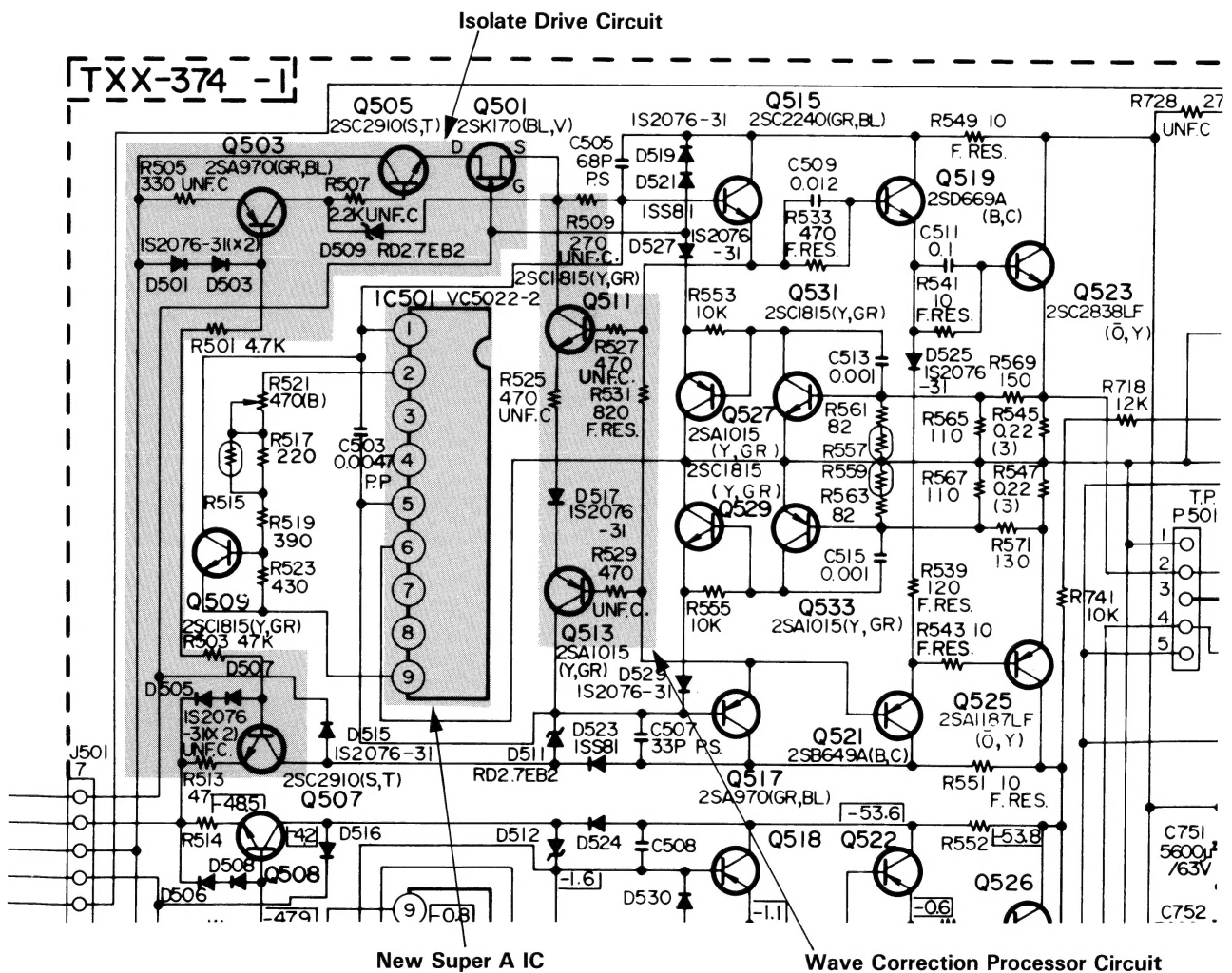


Fig. 2

3. Main Parts Location and Part Numbers

3-(1) Front View

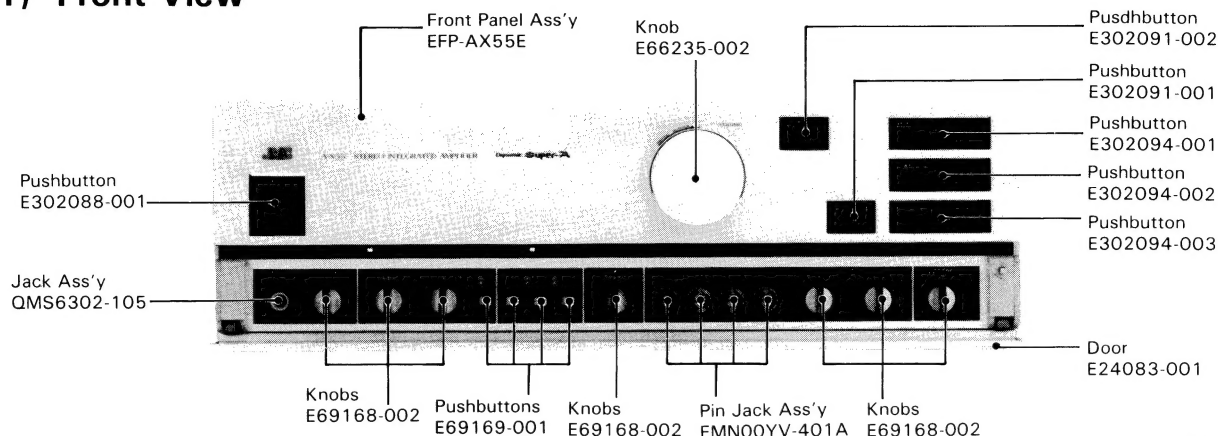


Fig. 3

3-(2) Rear View

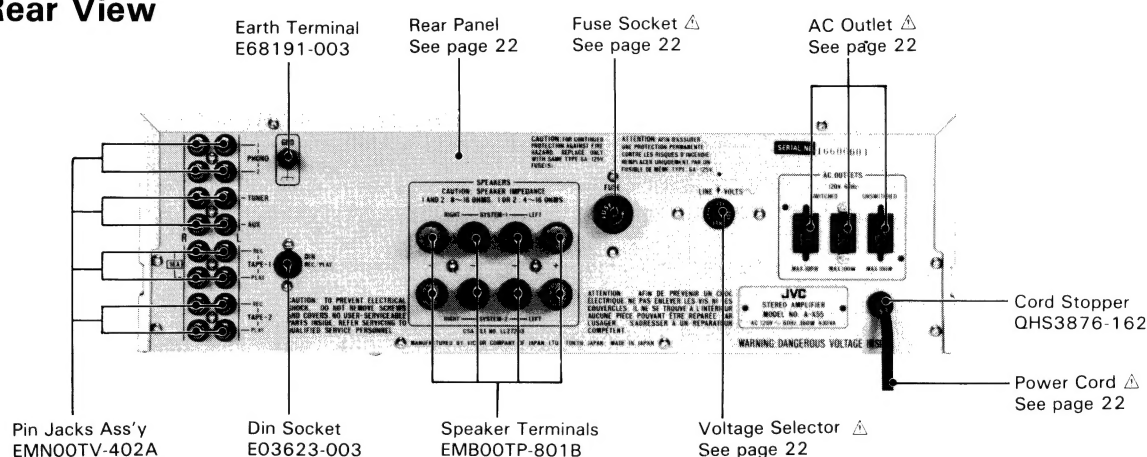


Fig. 4

3-(3) Top View

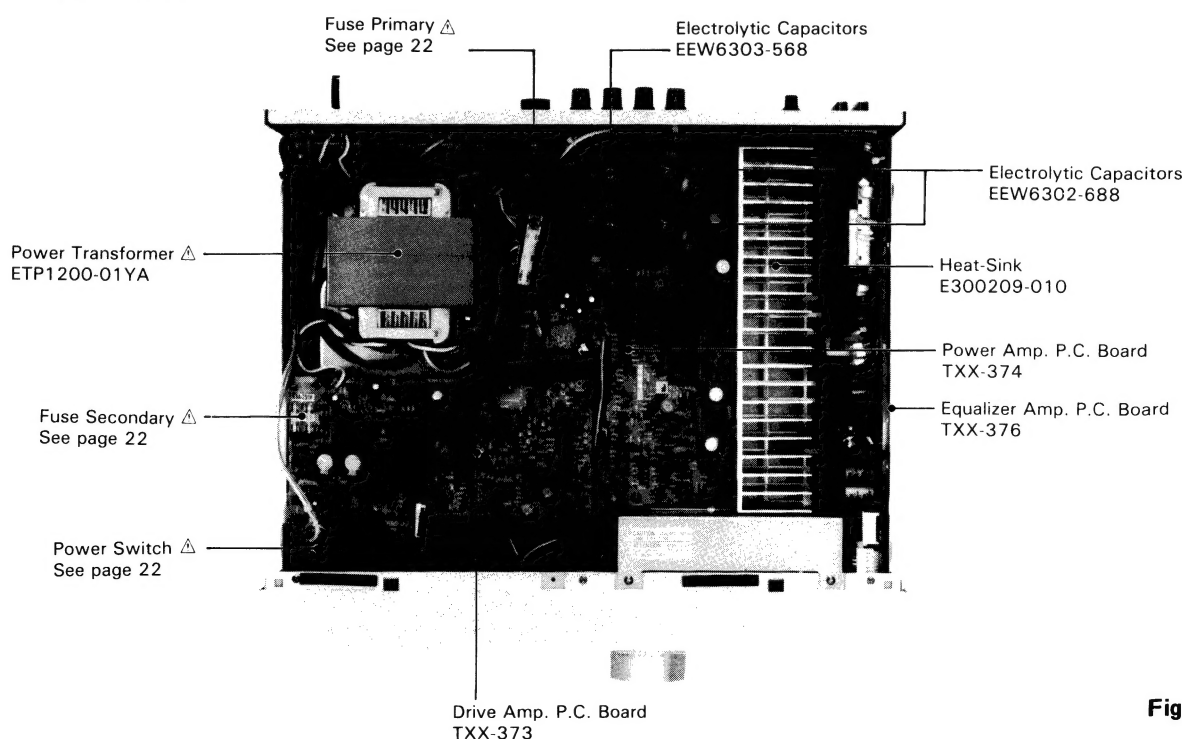


Fig. 5

4. Block Diagram

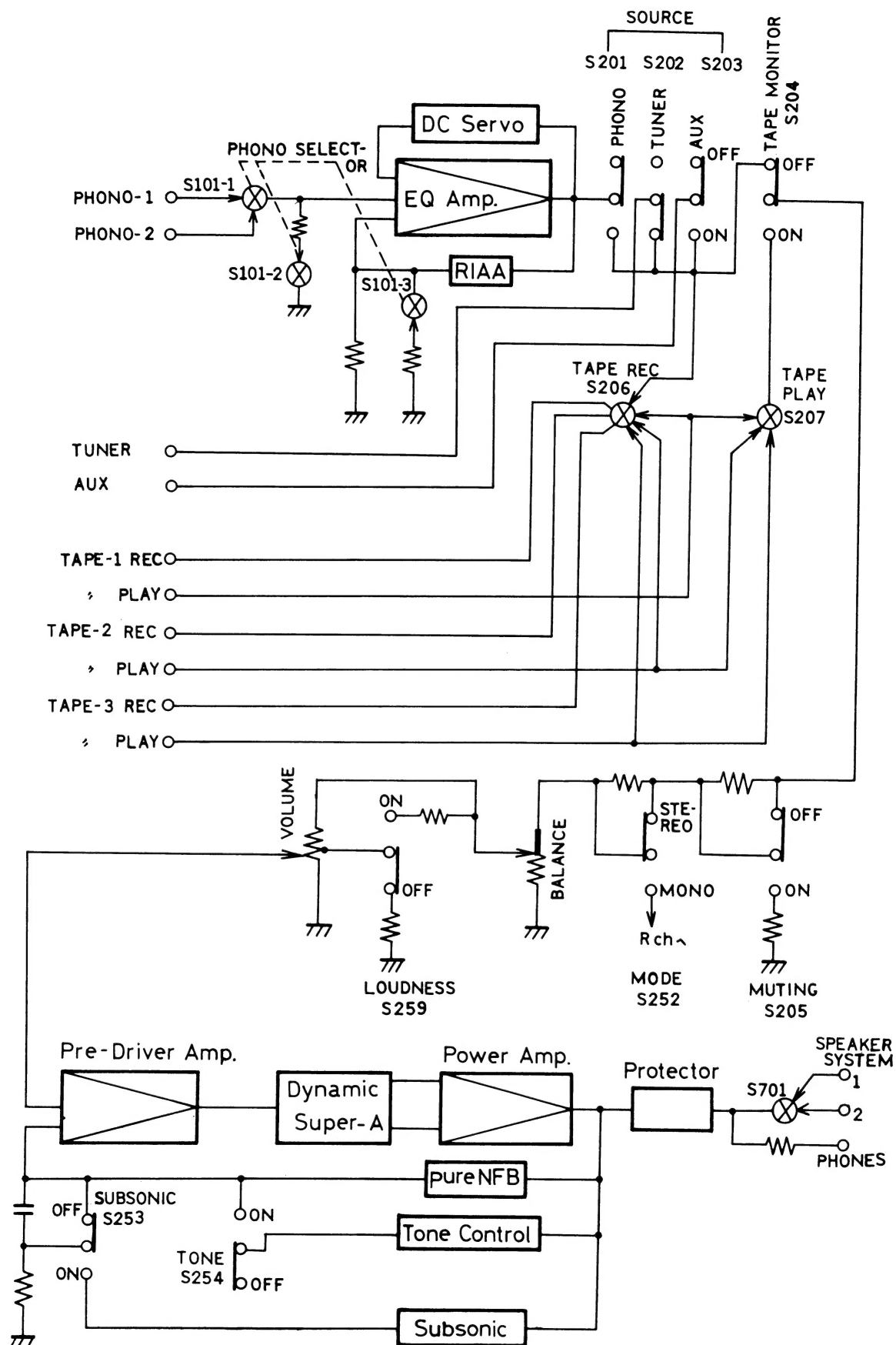
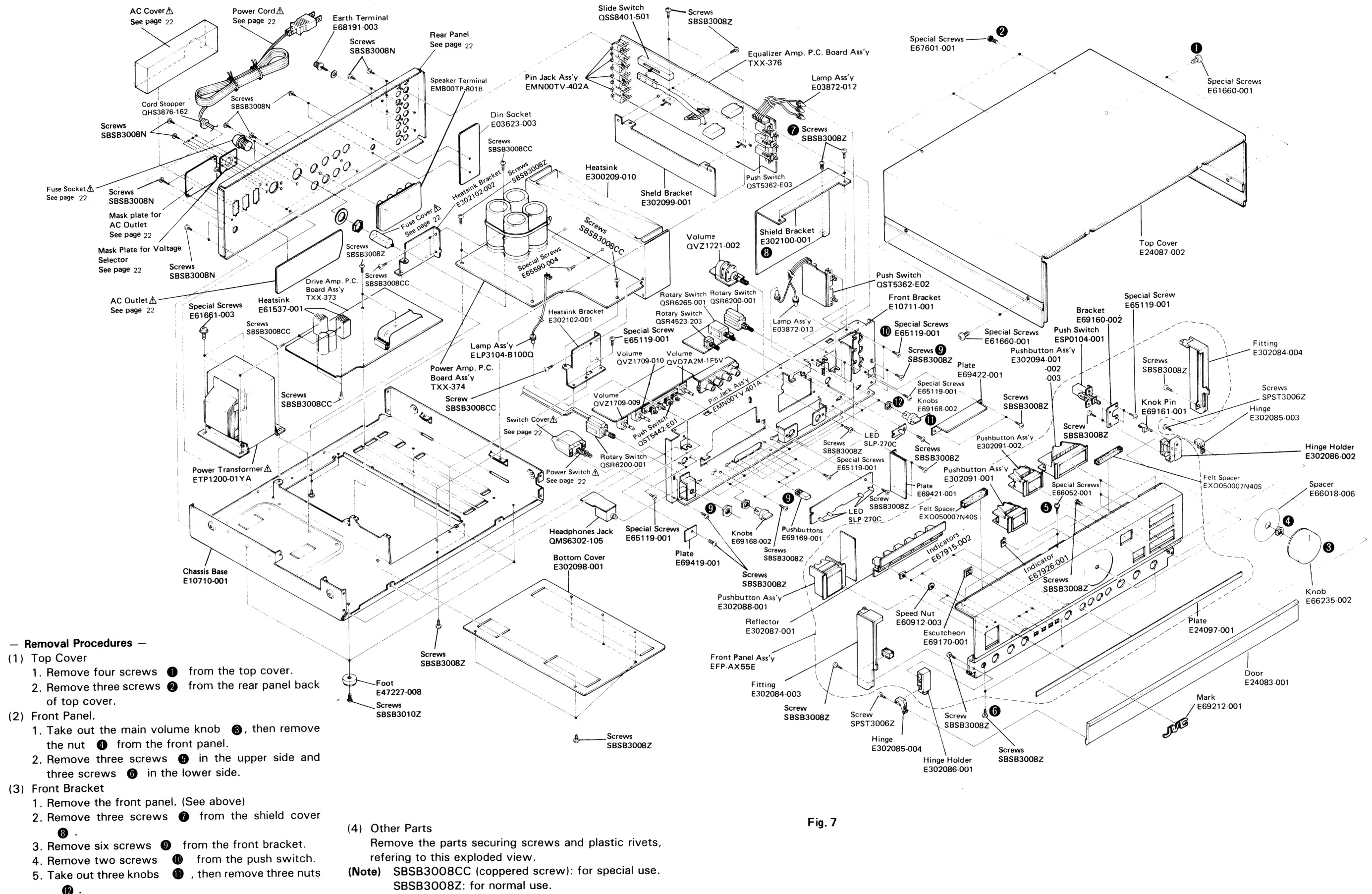


Fig. 6

5. Exploded View and Part Numbers



6. Amplifier Adjustment Procedures

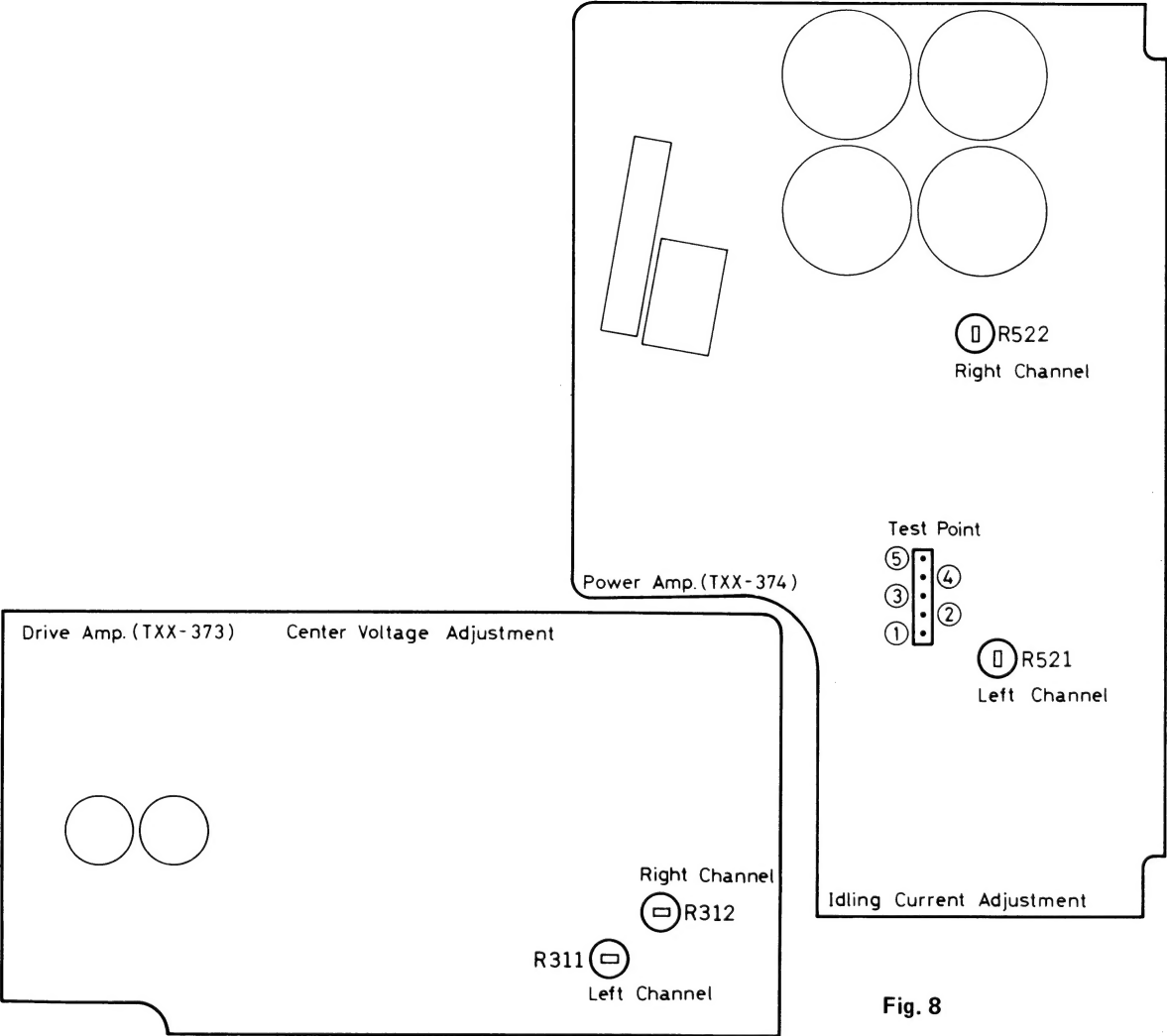


Fig. 8

6-(1) Drive Amp. Center Voltage Adjustment

1. Before turning on the power, set the semi-fixed resistors (R311 for Left channel and R312 for Right channel) of the drive amplifier circuit board (TXX-373) to the center position.
2. Adjust the semi-fixed resistors (R311 and R312) so that the voltage at the following test points of the power amplifier circuit board (TXX-374) is within a range of $\pm 10\text{mV}$ or less five minutes after the power is turned on.
Left channel: Measure the voltage between test point ① and test point ③ (ground).
Right channel: Measure the voltage between test point ⑤ and test point ③ (ground).
The measurements can also be performed at the speaker terminals if the relay is operating normally.

6-(2) Power Amp. Idling Current Adjustment

1. Before turning on the power, turn the semi-fixed resistors (R521 for Left channel and R522 for Right

- channel) of the power amplifier circuit board fully counterclockwise.
2. Adjust the semi-fixed resistors (R521 and R522) so that the voltage at the following test points of the power amplifier circuit board is within a range of $9\text{mV} \sim 13\text{mV}$ after the power is turned on.
Left channel: Measure the voltage between test point ② (emitter of Q523) and output at the test point ①.
Right channel: Measure the voltage between test point ④ (emitter of Q524) and output at the test point ⑤.
3. Readjust resistors R521 and R522 about five minutes after the power is turned on (the heat-sink temperature must be sufficiently high) so that the voltage at the test points becomes 11mV . Confirm that the voltage does not vary when the heat-sink temperature increases further.
Note: Be sure to perform the measurement with the probes and cabinet of the measuring equipment separated from the grounding terminals of A-X55 or of other measuring equipment.

7. Printed Circuit Board Ass'y and Parts List

7-(1) TXX-376 Equalizer Amp. P.C. Board Ass'y

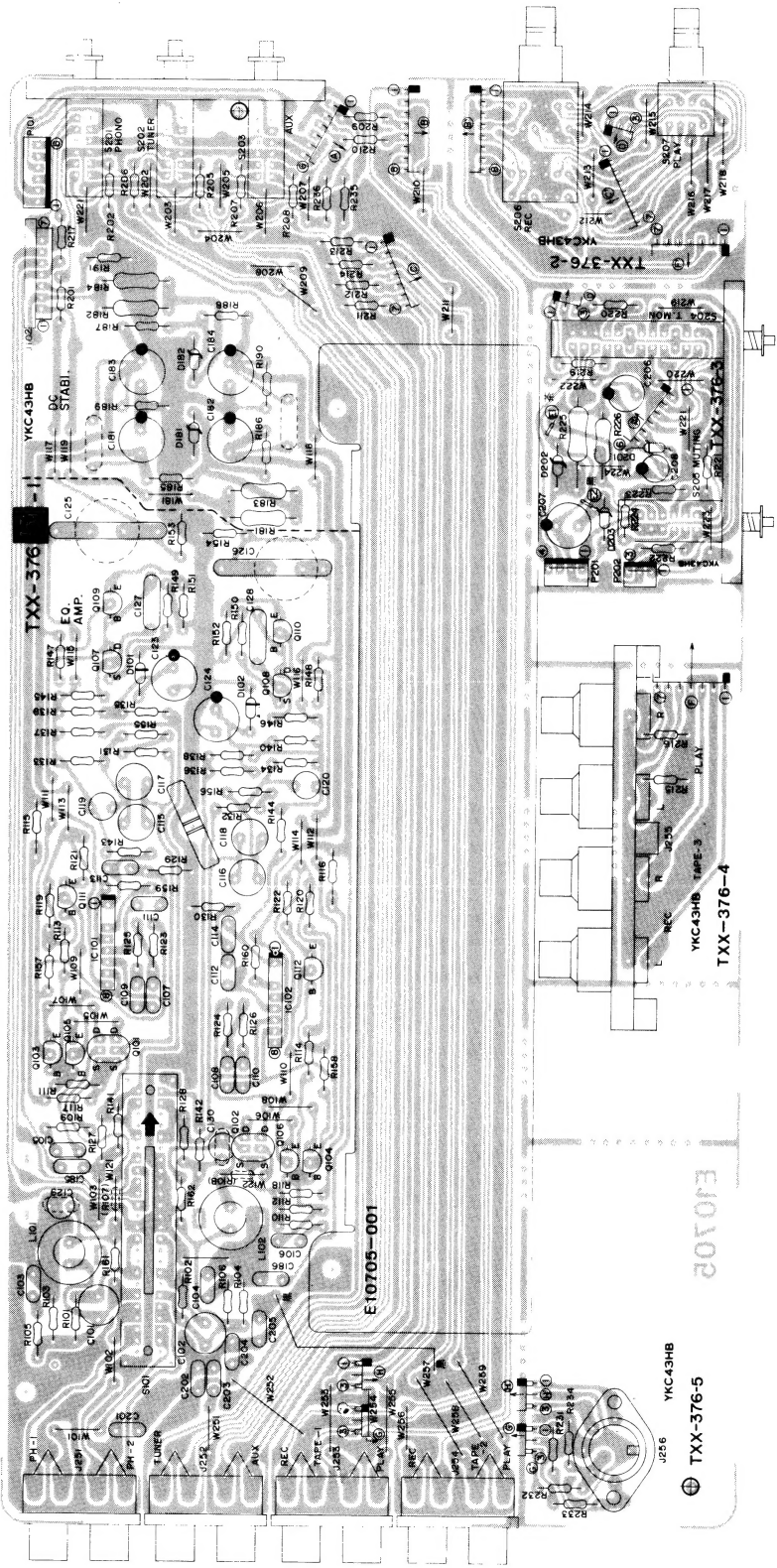


Fig. 9

Transistors

Item No.	Part Number	Rating	Description	Maker
Q101	2SK240V(BL,V)		F.E.T.	
Q102	2SK240V(BL,V)		"	
Q103	2SC2240(GR,BL)		Silicon	Toshiba
Q104	2SC2240(GR,BL)		"	"
Q105	2SC2240(GR,BL)		"	"
Q106	2SC2240(GR,BL)		"	"
Q107	2SK163(L1)		F.E.T.	NEC
Q108	2SK163(L1)		"	"
Q109	2SC1815(Y,GR)		Silicon	Toshiba
Q110	2SC1815(Y,GR)		"	"
Q111	2SA970(GR,BL)		"	"
Q112	2SA970(GR,BL)		"	"

Integrated Circuits

Item No.	Part Number	Rating	Description	Maker
IC101	HA12017		I.C.	Hitachi
IC102	HA12017		I.C.	"

Diodes

Item No.	Part Number	Rating	Description	Maker
D181	RD27EB3		Silicon	NEC
			(Zener)	
D182	RD27EB3		"(Zener)	"
D201	RD11EB3		"(Zener)	"
D202	RD10EB3		"(Zener)	"
D203	RD10EB3		"(Zener)	"

Coils

Item No.	Part Number	Rating	Description
L101	EQL0111-151		Inductor (for W.Germany)
L102	EQL0111-151		Inductor (for W.Germany)

Capacitors

Item No.	Part Number	Rating	Description
C101	QFS81HJ-123	0.012μF 50V	Polystyrene
C101	QFS81HJ-471	470pF 50V	" (for W.Germany)
C102	QFS81HJ-123	0.012μF 50V	Polystyrene
C102	QFS81HJ-471	470pF 50V	Polystyrene (for W.Germany)
C103	QFP31HJ-151	150pF 50V	Polypropylene (Except W.Germany)
C104	QFP31HJ-151	150pF 50V	Polypropylene (Except W.Germany)
C105	QFM81HJ-472	4700pF 50V	Mylar
C106	QFM81HJ-472	4700pF 50V	"
C107	QFM81HJ-472	4700pF 50V	"
C108	QFM81HJ-472	4700pF 50V	"
C109	QFM81HJ-103	0.01μF 50V	"
C110	QFM81HJ-103	0.01μF 50V	"
C111	QFP31HJ-101	100pF 50V	Polypropylene
C112	QFP31HJ-101	100pF 50V	"
C113	QFP31HJ-471	470pF 50V	"


Capacitors

Item No.	Part Number	Rating	Description
C114	QFP31HJ-471	470pF 50V	Polypropylene
C115	QFS81HG-822	8200pF 50V	Polystyrene
C116	QFS81HG-822	8200pF 50V	"
C117	QFS81HG-822	8200pF 50V	"
C118	QFS81HG-822	8200pF 50V	"
C119	QFS81HG-472	4700pF 50V	"
C120	QFS81HG-472	4700pF 50V	"
C123	QET51AR-477H	470μF 10V	Electrotic
C124	QET51AR-477H	470μF 10V	"
C125	EFZ0089-475	4.7μF	Metallized Mylar
C126	EFZ0089-475	4.7μF	"
C127	EFZ0089-474	0.47μF	"
C128	EFZ0089-474	0.47μF	"
C129	QFP31HJ-471	470pF 50V	Polypropylene (for W.Germany)
C129	QFS81HJ-470	47pF 50V	Polystyrene
C130	QFP31HJ-471	470pF 50V	Polypropylene (for W.Germany)
C130	QFS81HJ-470	47pF 50V	Polystyrene
C131	QFP31HJ-101	100pF 50V	Polypropylene (for W.Germany)
C132	QFP31HJ-101	100pF 50V	Polypropylene (for W.Germany)
C181	QET51VR-227H	220μF 35V	Electrotic
C182	QET51VR-227H	220μF 35V	Electrolytic
C183	QET51VR-227H	220μF 35V	"
C184	QET51VR-227H	220μF 35V	"
C185	QFM81HK-473	0.047μF 50V	Mylar
C186	QFM81HK-473	0.047μF 50V	"
C201	QFM81HK-103	0.01μF 50V	"
C202	QFM81HK-103	0.01μF 50V	"
C203	QFM81HK-103	0.01μF 50V	"
C204	QFM81HK-103	0.01μF 50V	"
C205	QFM81HK-103	0.01μF 50V	"
C206	QET51CR-107H	100μF 16V	Electrolytic
C207	QET51CR-227H	220μF 16V	"
C208	QET51CR-476H	47μF 16V	"


Resistors


Item No.	Part Number	Rating	Description
R101	QRD141J-101S	100Ω 1/4W	Carbon
R102	QRD141J-101S	100Ω 1/4W	"
R103	QRD141J-473S	47kΩ 1/4W	"
R104	QRD141J-473S	47kΩ 1/4W	"
R105	QRD148J-471S	470Ω 1/4W	" (Except W.Germany)
R106	QRD148J-471S	470Ω 1/4W	Carbon (Except W.Germany)
R107	QRD148J-5R6S	5.6Ω 1/4W	Carbon (for W.Germany)
R108	QRD148J-5R6S	5.6Ω 1/4W	Carbon (for W.Germany)
R109	QRD141J-331S	330Ω 1/4W	Carbon
R110	QRD141J-331S	330Ω 1/4W	"
R111	QRD141J-153S	15kΩ 1/4W	"
R112	QRD141J-153S	15kΩ 1/4W	"
R113	QRD141J-823S	82kΩ 1/4W	"
R114	QRD141J-823S	82kΩ 1/4W	"
R115	QRD141J-162S	1.6kΩ 1/4W	"
R116	QRD141J-162S	1.6kΩ 1/4W	"
R117	QRD141J-162S	1.6kΩ 1/4W	"
R118	QRD141J-162S	1.6kΩ 1/4W	"
R119	QRD141J-621S	620Ω 1/4W	"
R120	QRD141J-621S	620Ω 1/4W	"

Resistors

Item No.	Part Number	Rating		Description
R121	QRD141J-621S	620Ω	1/4W	Carbon
R122	QRD141J-621S	620Ω	"	"
R123	QRD141J-560S	56Ω	"	"
R124	QRD141J-560S	56Ω	"	"
R125	QRD141J-681S	680Ω	"	"
R126	QRD141J-681S	680Ω	"	"
R127	QRD141J-331S	330Ω	"	"
R128	QRD141J-331S	330Ω	"	"
R129	QRD141J-911S	910Ω	"	"
R130	QRD141J-911S	910Ω	"	"
R131	QRD141J-184S	180kΩ	"	"
R132	QRD141J-184S	180kΩ	"	"
R133	QRD141J-163S	16kΩ	"	"
R134	QRD141J-163S	16kΩ	"	"
R135	QRD141J-222S	2.2kΩ	"	"
R136	QRD141J-222S	2.2kΩ	"	"
R137	QRD141J-205S	2kΩ	"	"
R138	QRD141J-205S	2kΩ	"	"
R139	QRD141J-133S	13kΩ	"	"
R140	QRD141J-135S	13kΩ	"	"
R141	QRD141J-240S	24Ω	"	"
R142	QRD141J-240S	24Ω	"	"
R143	QRD141J-220S	22Ω	"	"
R144	QRD141J-220S	22Ω	"	"
R145	QRD141J-475S	4.7MΩ	"	"
R146	QRD141J-475S	4.7MΩ	"	"
R147	QRD141J-683S	68kΩ	"	"
R148	QRD141J-683S	68kΩ	"	"
R149	QRD141J-182S	1.8kΩ	"	"
R150	QRD141J-182S	1.8kΩ	"	"
R151	QRD141J-752S	7.5kΩ	"	"
R152	QRD141J-752S	7.5kΩ	"	"
R153	QRD141J-224S	220kΩ	"	"
R154	QRD141J-224S	220kΩ	"	"
R155	QRD141J-123S	12kΩ	"	"
R156	QRD141J-123S	12kΩ	"	"
R157	QRD141J-102S	1kΩ	"	"
R158	QRD141J-102S	1kΩ	"	"
R159	QRD141J-433S	43kΩ	"	"
R160	QRD141J-433S	43kΩ	"	"
R161	QRD148J-152S	1.5kΩ	"	Carbon (for W.Germany)
R161	QRD148J-5R6S	5.6Ω	"	Carbon
R162	QRD148J-152S	1.5kΩ	"	Carbon (for W.Germany)
R162	QRD148J-5R6S	5.6Ω	"	Carbon
R181	QRG017J-152S	1.5kΩ	1W	Oxied Metal Film 
R182	QRG017J-152S	1.5kΩ	"	"
R183	QRG017J-152S	1.5kΩ	"	"
R184	QRG017J-152S	1.5kΩ	"	"
R185	QRD141J-101S	100Ω	1/4W	Carbon
R186	QRD141J-101S	100Ω	"	"
R187	QRD141J-101S	100Ω	"	"
R188	QRD141J-101S	100Ω	"	"
R189	QRD141J-223S	22kΩ	"	"
R190	QRD141J-223S	22kΩ	"	"
R201	QRD141J-331S	330Ω	"	"
R202	QRD141J-331S	330Ω	"	"
R205	QRD141J-331S	330Ω	"	"
R206	QRD141J-331S	330Ω	"	"
R207	QRD141J-331S	330Ω	"	"
R208	QRD141J-331S	330Ω	"	"
R209	QRD141J-331S	330Ω	"	"
R210	QRD141J-331S	330Ω	"	"
R211	QRD141J-105S	1MΩ	"	"
R212	QRD141J-105S	1MΩ	"	"
R213	QRD141J-105S	1MΩ	"	"
R214	QRD141J-105S	1MΩ	"	"
R215	QRD141J-105S	1MΩ	"	"

Resistors

Item No.	Part Number	Rating		Description
R216	QRD141J-105S	1MΩ	1/4W	Carbon
R217	QRD141J-680S	68Ω	"	"
R219	QRD141J-331S	330Ω	"	"
R220	QRD141J-331S	330Ω	"	"
R221	QRD141J-823S	82kΩ	"	"
R222	QRD141J-823S	82kΩ	"	"
R223	QRD141J-103S	10kΩ	"	"
R224	QRD141J-103S	10kΩ	"	"
R225	QRG027J-270	27Ω	2W	Oxied Metal Film 
R226	QRG017J-150S	15Ω	1W	"
R231	QRD148J-334S	330kΩ	"	Carbon
R232	QRD148J-334S	330kΩ	"	"
R233	QRD148J-104S	100kΩ	"	"
R234	QRD141J-104S	100kΩ	"	"
R235	QRD141J-105S	1MΩ	"	"
R236	QRD141J-105S	1MΩ	"	"

 : Safety Parts

Others

Item No.	Part Number	Rating	Description
J102	E10705-001		Circuit Board
	E302099-001		Shield Bracket
	SBSB3008Z		Tapping Screw
	E03532-001		Shield Case (for W.Germany)
J102	E04365-007		Formed Wire Socket
J251	EMN00TV-402A		Pin Jack Assy
J252	EMN00TV-402A		Pin Jack Assy
J253	EMN00TV-402A		Pin Jack Assy
J254	EMN00TV-402A		Pin Jack Assy
J255	EMN00YV-401A		Pin Jack Assy
J256	E03623-003		Din Socket
P101	QMV5005-006		6P Plug Assy
P201	QMV5005-004		4P Plug Assy
P202	QMV5005-003		3P Plug Assy
P203	QMV5005-009		9P Plug Assy
S101	QSS8401-501		Slide Switch
S201	QST5362-E03		Push Switch
S204	QST5362-E02		Push Switch
S206	QSR6265-001		Rotary Switch
S207	QSR4523-203		Rotary Switch

7-(2) TXX-373 Drive Amp. P.C. Board Ass'y

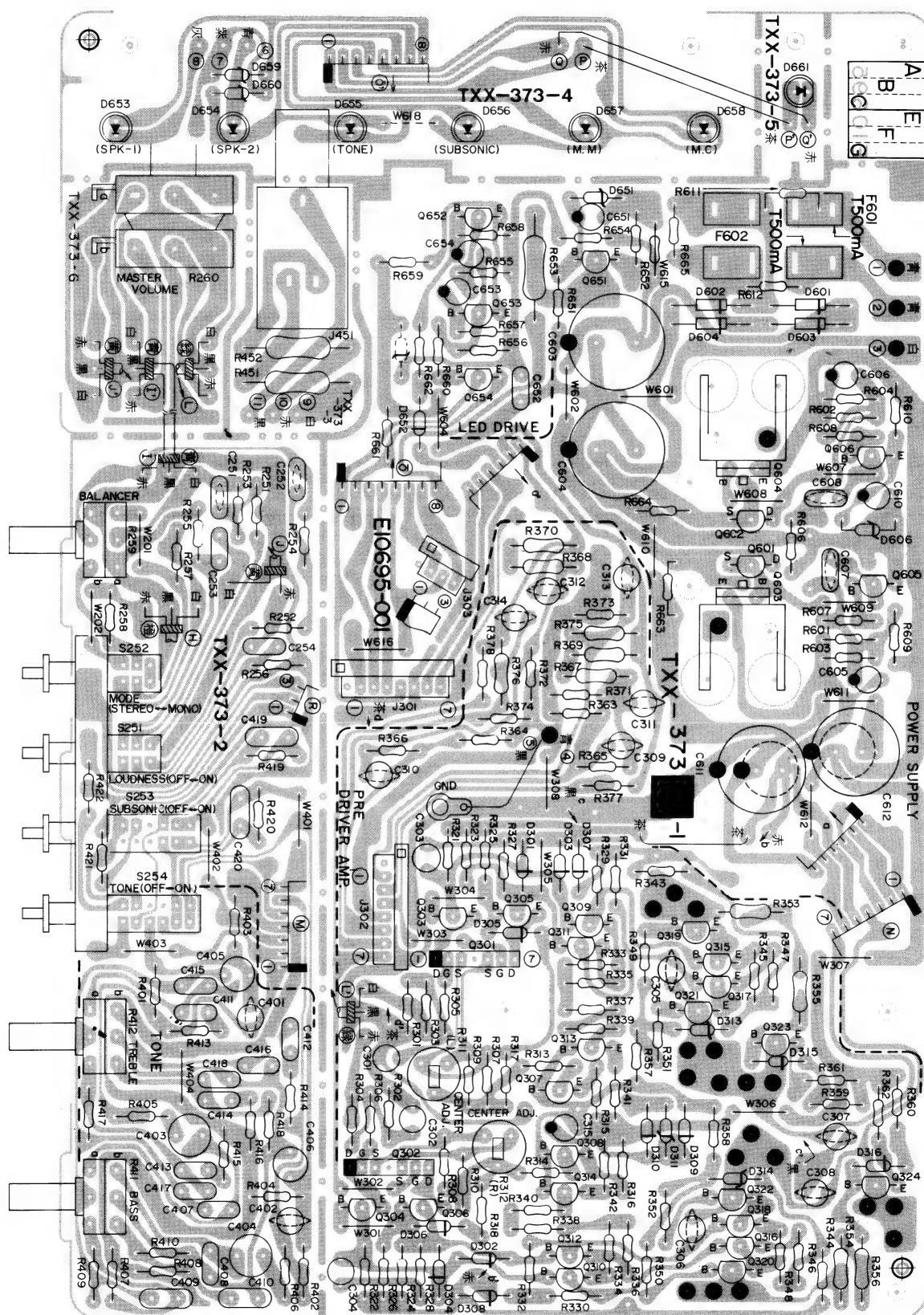


Fig. 10

Transistors

Item No.	Part Number	Rating	Description	Maker
Q301	2SK150A(GR,BL)		F.E.T.	Toshiba
Q302	2SK150A(GR,BL)		"	"
Q303	2SC1815(Y,GR)		Silicon	"
Q304	2SC1815(Y,GR)		"	"
Q305	1SC1815(Y,GR)		"	"
Q306	2SC1815(Y,GR)		"	"
Q307	2SC1815(Y,GR)		"	"
Q308	2SC1815(Y,GR)		"	"
Q309	2SC458(C,D)		"	Hitachi
Q310	2SC458(C,D)		"	"
Q311	2SC458(C,D)		"	"
Q312	2SC458(C,D)		"	"
Q313	2SC2240(GR,BL)		"	Toshiba
Q314	2SC2240(GR,BL)		"	"
Q315	2SA1029(C,D)		"	Hitachi
Q316	2SA1029(C,D)		"	"
Q317	2SA1029(C,D)		"	"
Q318	2SA1029(C,D)		"	"
Q319	2SA970(GR,BL)		"	Toshiba
Q320	2SA970(GR,BL)		"	"
Q321	2SA970(GR,BL)		"	"
Q322	2SA970(GR,BL)		"	"
Q323	2SC2910(S,T)		"	Sanyo
Q324	2SC2910(S,T)		"	"
Q601	2SK246(GR)		F.E.T.	Toshiba
Q602	2SK246(GR)		"	"
Q603	2SD313V(D,E)		Silicon	Sanyo
Q604	2SB507V(D,E)		"	"
Q605	2SC2240(GR,BL)		"	Toshiba
Q606	2SA970(GR,BL)		"	"
Q651	2SA965(O,Y)		"	"
Q652	2SC1815(Y,GR)		"	"
Q653	2SC1815(Y,GR)		"	"
Q654	2SC1815(Y,GR)		"	"

Diodes

Item No.	Part Number	Rating	Description	Maker
D301	1S2076-31		Silicon	Hitachi
D302	1S2076-31		"	"
D303	1S2076-31		"	"
D304	1S2076-31		"	"
D305	1S2076-31		"	"
D306	1S2076-31		"	"
D307	1S2076-31		"	"
D308	1S2076-31		"	"
D309	1S2076-31		"	"
D310	1S2076-31		"	"
D311	RD6.2EB3		"(Zener)	NEC
D313	RD2.7EB2		"(")	"
D314	RD2.7EB2		"(")	"
D315	1S2076-31		"	Hitachi
D316	1S2076-31		"	"
D601	10DF2FD		"	Nippon Inter Δ
D602	10DF2FD		"	"
D603	10DF2FD		"	"
D604	10DF2FD		"	"
D606	RD5.6EB3		"(Zener)	NEC
D651	RD5.6EB3		"(")	"
D652	1S2076-31		"	Hitachi
D653	SLP-270C		L.E.D.	Sanyo
D654	SLP-270C		"	"
D657	SLP-270C		"	"
D658	SLP-270C		"	"
D659	RD2.7EB2		Silicon (Zener)	NEC
D660	RD2.7EB2		"(")	"
D661	SLP-270C		L.E.D.	Sanyo

Capacitors

Item No.	Part Number	Rating	Description
C251	QCS21HJ-331	330pF 50V	Ceramic
C252	QCS21HJ-331	330pF	"
C253	QFM81HJ-273	0.027 μ F	Mylar
C254	QFM81HJ-273	0.027 μ F	"
C301	QFS81HJ-330	33pF	Polystyrene
C302	QFS81HJ-330	33pF	"
C303	QFS81HJ-331	330pF	"
C304	QFS81HJ-331	330pF	"
C305	QCS22HJ-4R0	4pF 500V	Ceramic
C306	QCS22HJ-4R0	4pF	"
C307	QCS22HJ-330	33pF	"
C308	QCS22HJ-330	33pF	"
C309	QCS21HJ-680	68pF 50V	"
C310	QCS21HJ-680	68pF	"
C311	QCS21HJ-220	22pF	"
C312	QCS21HJ-220	22pF	"
C313	QCS21HJ-220	22pF	"
C314	QCS21HJ-220	22pF	"
C315	QET51HR-105H	1.5 μ F	Electrolytic
C401	QCS21HJ-820	82pF	Ceramic
C402	QCS21HJ-820	82pF	"
C403	QE20046-475	4.7 μ F	N.P. Electrolytic
C404	QE20046-475	4.7 μ F	"
C405	QE20046-225	2.2 μ F	"
C406	QE20046-225	2.2 μ F	"
C407	QFM81HJ-183	0.018 μ F	Mylar
C408	QFM81HJ-183	0.018 μ F	"
C409	QFM81HJ-184	0.18 μ F	"
C410	QFM81HJ-184	0.18 μ F	"
C411	QFM81HJ-332	3300pF	"
C412	QFM81HJ-332	3300pF	"
C413	QFM81HJ-333	0.033 μ F	"
C414	QFM81HJ-333	0.033 μ F	"
C415	QFP31HJ-391	390pF	Polypropylene
C416	QFP31HJ-391	390pF	"
C417	QFP31HJ-432	4300pF	"
C418	QFP31HJ-432	4300pF	"
C419	QFM81HJ-274	0.27 μ F	Mylar
C420	QFM81HJ-274	0.27 μ F	"
C603	QET52AR-477E	270 μ F 100V	Electrolytic
C604	QET52AR-477E	270 μ F	"
C605	QET51JR-225H	2.2 μ F 63V	"
C606	QET51JR-225H	2.2 μ F	"
C607	QCS21HJ-101	100pF 50V	Ceramic
C608	QCS21HJ-101	100pF	"
C610	QET51CR-476H	47 μ F 16V	Electrolytic
C611	QET51JR-107H	100 μ F 63V	"
C612	QET51JR-107H	100 μ F	"
C651	QET51HR-225H	2.2 μ F 50V	"
C652	QFM81HJ-473	0.47 μ F 150V	Mylar
C653	QET51HR-225H	2.2 μ F 50V	Electrolytic
C654	QET51HR-225H	2.2 μ F	"

Resistors

Item No.	Part Number	Rating	Description
R251	QRD141J-333S	33k Ω 1/4W	Carbon
R252	QRD141J-333S	33k Ω	"
R253	QRD141J-105S	1M Ω	"
R254	QRD141J-105S	1M Ω	"
R255	QRD141J-203S	20k Ω	"
R256	QRD141J-203S	20k Ω	"
R257	QRD141J-472S	4.7k Ω	"
R258	QRD141J-472S	4.7k Ω	"
R259	QVD7A2M-1F5V	250k Ω	Variable
R260	QVZ1221-002	100k Ω	"

Resistors

Item No.	Part Number	Rating		Description
R301	QRD141J-105S	1MΩ	1/4W	Carbon
R302	QRD141J-105S	"	"	"
R303	QRD141J-151S	150Ω	"	"
R304	QRD141J-151S	"	"	"
R305	QRD141J-470S	47Ω	"	"
R306	QRD141J-470S	"	"	"
R307	QRD141J-220S	22Ω	"	"
R308	QRD141J-220S	"	"	"
R309	QRD141J-220S	"	"	"
R310	QRD141J-220S	"	"	"
R311	QVP4A0B-101	100Ω		Variable
R312	QVP4A0B-101	"		"
R313	QRD141J-123S	12kΩ	1/4W	Carbon
R314	QRD141J-123S	"	"	"
R315	QRD141J-222S	2.2kΩ	"	"
R316	QRD141J-222S	"	"	"
R317	QRD141J-223S	22kΩ	"	"
R318	QRD141J-223S	"	"	"
R321	QRD141J-682S	6.8kΩ	"	"
R322	QRD141J-682S	"	"	"
R323	QRD141J-682S	"	"	"
R324	QRD141J-682S	"	"	"
R325	QRD141J-154S	150kΩ	"	"
R326	QRD141J-154S	"	"	"
R327	QRD141J-221S	220Ω	"	"
R328	QRD141J-221S	"	"	"
R329	QRD141J-681S	680Ω	"	"
R330	QRD141J-681S	"	"	"
R331	QRD141J-681S	"	"	"
R332	QRD141J-681S	"	"	"
R333	QRD141J-391S	390Ω	"	"
R334	QRD141J-391S	"	"	"
R335	QRD141J-391S	"	"	"
R336	QRD141J-391S	"	"	"
R337	QRD148J-512S	5.1kΩ	"	"
R338	QRD148J-512S	"	"	"
R339	QRD148J-512S	"	"	"
R340	QRD148J-512S	"	"	"
R341	QRD141J-152S	1.5kΩ	"	"
R342	QRD141J-152S	"	"	"
R343	QRD149J-121S	120Ω	"	UNF. Carbon △
R344	QRD149J-121S	"	"	"
R345	QRD141J-5R6S	5.6Ω	"	Carbon
R346	QRD141J-5R6S	"	"	"
R347	QRD141J-5R6S	"	"	"
R348	QRD141J-5R6S	"	"	"
R349	QRD141J-151S	150Ω	"	"
R350	QRD141J-151S	"	"	"
R351	QRD141J-151S	"	"	"
R352	QRD141J-151S	"	"	"
R353	QRD129J-472	4.7kΩ	1/2W	UNF. Carbon △
R354	QRD129J-472	"	"	"
R355	QRD129J-472	"	"	"
R356	QRD129J-472	"	"	"
R357	QRD141J-104S	100kΩ	1/4W	Carbon
R358	QRD141J-104S	"	"	"
R359	QRD149J-221S	220Ω	"	UNF. Carbon △
R360	QRD149J-221S	"	"	"
R361	QRD149J-221S	"	"	"
R362	QRD149J-221S	"	"	"
R363	QRD141J-471S	470Ω	"	Carbon
R364	QRD141J-471S	"	"	"
R365	QRD141J-472S	4.7kΩ	"	"
R366	QRD141J-472S	"	"	"
R367	QRD129J-122	1.2kΩ	1/2W	UNF. Carbon △
R368	QRD129J-122	"	"	"
R369	QRD129J-272	2.7kΩ	"	"
R370	QRD129J-272	"	"	"
R371	QRD148J-301S	300Ω	1/4W	Carbon
R372	QRD148J-301S	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R373	QRD148J-301S	300Ω	1/4W	Carbon
R374	QRD148J-301S	"	"	"
R375	QRD129J-392	3.9kΩ	1/2W	UNF. Carbon △
R376	QRD129J-392	"	"	"
R377	QRD141J-475S	4.7MΩ	1/4W	Carbon
R378	QRD141J-475S	"	"	"
R401	QRD141J-684S	680kΩ	"	"
R402	QRD141J-684S	"	"	"
R403	QRD141J-223S	22kΩ	"	"
R404	QRD141J-223S	"	"	"
R405	QRD141J-223S	"	"	"
R406	QRD141J-223S	"	"	"
R407	QRD141J-202S	2kΩ	"	"
R408	QRD141J-202S	"	"	"
R409	QRD141J-133S	13kΩ	"	"
R410	QRD141J-133S	"	"	"
R411	QVZ1709-009	50kΩ		Variable
R412	QVZ1709-010	"		"
R413	QRD141J-432S	4.3kΩ	1/4W	Carbon
R414	QRD141J-432S	"	"	"
R415	QRD141J-391S	390Ω	"	"
R416	QRD141J-391S	"	"	"
R417	QRD141J-183S	18kΩ	"	"
R418	QRD141J-183S	"	"	"
R419	QRD141J-105S	1MΩ	"	"
R420	QRD141J-105S	"	"	"
R451	QRG027-331	330Ω	2W	Oxied Metal Film △
R452	QRG027J-331	"	"	"
R601	QRD148J-913S	91kΩ	1/4W	Carbon
R602	QRD148J-433S	43kΩ	"	"
R603	QRD148J-114S	110kΩ	"	"
R607	QRD149J-221S	220Ω	"	UNF. Carbon △
R608	QRD149J-221S	"	"	"
R609	QRD141J-513S	51kΩ	"	Carbon
R651	QRD141J-623S	62kΩ	"	"
R652	QRD149J-221S	220Ω	"	UNF. Carbon △
R653	QRG027J-122	1.2kΩ	2W	Oxied Metal Film △
R654	QRD141J-473S	47kΩ	1/4W	Carbon
R655	QRD141J-472S	4.7kΩ	"	"
R656	QRD141J-472S	"	"	"
R657	QRD141J-394S	390kΩ	"	"
R658	QRD141J-394S	"	"	"
R659	QRD141J-182S	1.8kΩ	"	"
R660	QRD141J-103S	10kΩ	"	"
R661	QRD141J-101S	100Ω	"	"
R662	QRD141J-103S	10kΩ	"	"
R663	QRD141J-563S	56kΩ	"	"
R664	QRD141J-563S	"	"	"
R665	QRD141J-105S	1MΩ	"	"

△ : Safety Parts

Others

Item No.	Part Number	Rating	Description
	EMG7331-001		Fuse Clip
	E10695-001		Circuit Board
	SBSB3008CC		Screw (coppered)
	SBSB3008M		Screw
	E61537-001		Heat-Sink
J301	E04365-007		Formed Wire Socket
J302	E04365-007		Formed Wire Socket
J451	QMS6302-105		Jack Assy
P301	QMV5005-003		3P Plug Assy
S251	QST5442-E01		Push Switch

7-(3) TXX-374 Power Amp. P.C. Board Ass'y

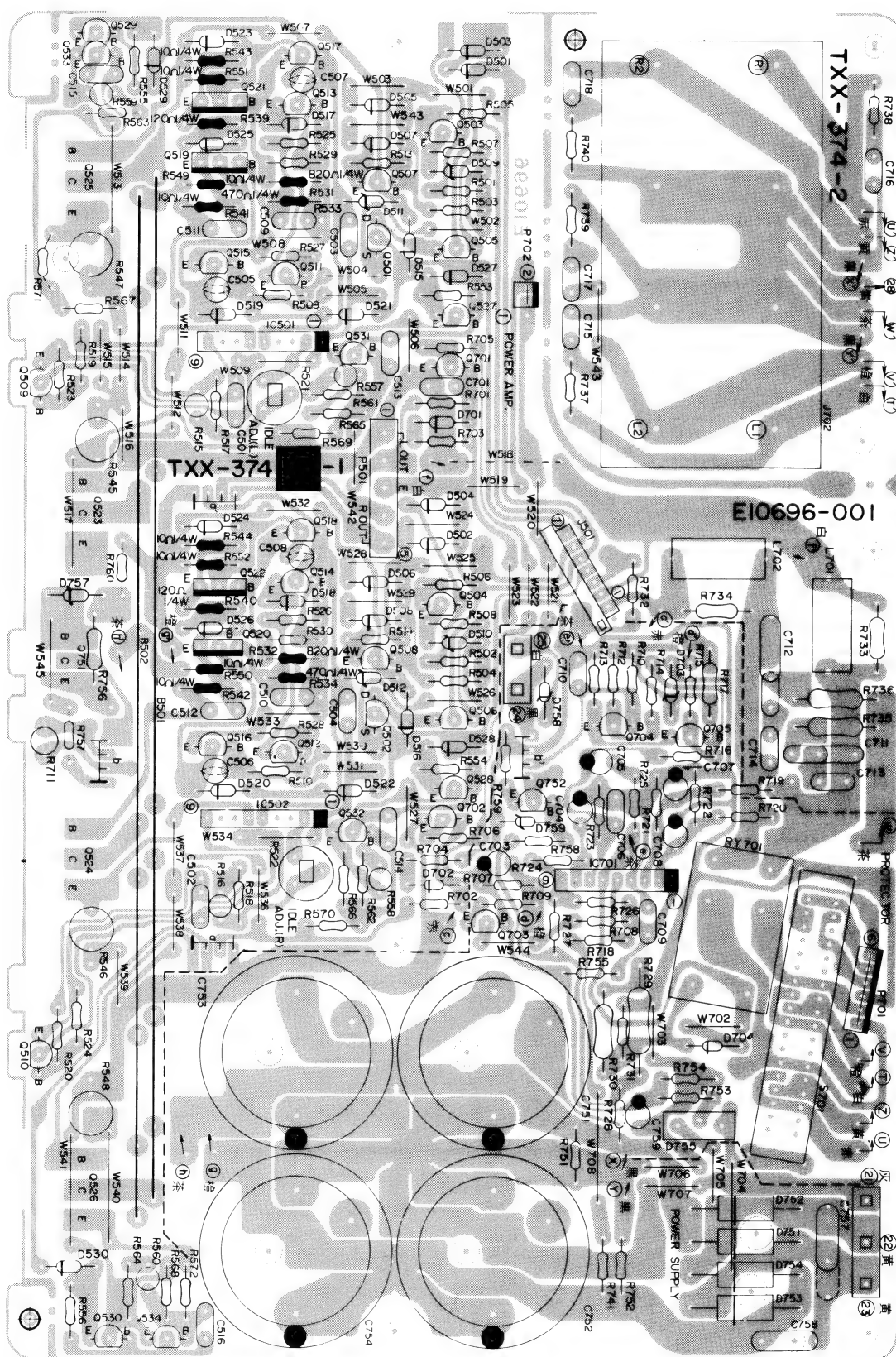


Fig. 11

Transistors

Item No.	Part Number	Rating	Description	Maker
Q501	2SK170(BL,V)		F.E.T.	Toshiba
Q502	2SK170(BL,V)		"	"
Q503	2SA970(GR,BL)		Silicon	"
Q504	2SA970(GR,BL)		"	"
Q505	2SC2910(S,T)		"	Sanyo
Q506	2SC2910(S,T)		"	"
Q507	2SC2910(S,T)		"	"
Q508	2SC2910(S,T)		"	"
Q509	2SC1815(Y,GR)		"	Toshiba
Q510	2SC1815(Y,GR)		"	"
Q511	2SC1815(Y,GR)		"	"
Q512	2SC1815(Y,GR)		"	"
Q513	2SA1015(Y,GR)		"	"
Q514	2SA1015(Y,GR)		"	"
Q515	2SC2240(BL)		"	"
Q516	2SC2240(BL)		"	"
Q517	2SA970(BL)		"	"
Q518	2SA970(BL)		"	"
Q519	2SD669A(B,C)		"	Hitachi
Q520	2SD669A(B,C)		"	"
Q521	2SB649A(B,C)		"	"
Q522	2SB649A(B,C)		"	"
Q523	2SC2838LF(O,Y)		"	Sanken
Q524	2SC2838LF(O,Y)		"	"
Q525	2SA1187LF(O,Y)		"	"
Q526	2SA1187LF(O,Y)		"	"
Q527	2SA1015(Y)		"	Toshiba
Q528	2SA1015(Y)		"	"
Q529	2SC1815(Y)		"	"
Q530	2SC1815(Y)		"	"
Q531	2SC1815(Y)		"	"
Q532	2SC1815(Y)		"	"
Q533	2SA1015(Y)		"	"
Q534	2SA1015(Y)		"	"
Q701	2SC2240(GR,BL)		"	"
Q702	2SC2240(GR,BL)		"	"
Q703	2SA970(GR,BL)		"	"
Q751	2SD1265A(O,P)		"	Matsushita
Q752	2SA1015(Y,GR)		"	Toshiba

Diodes

Item No.	Part Number	Rating	Description	Maker
D511	RD2.7EB2		Silicon (Zener)	NEC
D512	RD2.7EB2		" (")	"
D515	1S2076-31		Silicon	Hitachi
D516	1S2076-31		"	"
D517	1S2076-31		"	"
D518	1S2076-31		"	"
D519	1S2076-31		"	"
D520	1S2076-31		"	"
D521	1SS81		"	"
D522	1SS81		"	"
D523	1SS81		"	"
D524	1SS81		"	"
D525	1S2076-31		"	"
D526	1S2076-31		"	"
D527	1S2076-31		"	"
D528	1S2076-31		"	"
D529	1S2076-31		"	"
D530	1S2076-31		"	"
D701	1S2076-31		"	"
D702	1S2076-31		"	"
D704	1S2076-31		"	"
D751	S3V20F		"	Shindengen
D752	S3V20F		"	"
D753	S3V20F		"	"
D754	S3V20F		"	"
D755	S2VC20R		"	"
D757	RD2.7EB2		" (Zener)	NEC
D758	RD10EB3		" (")	"
D759	RD5.6EB3		" (")	"

Coils

Item No.	Part Number	Rating	Description
L701	EQL0003-1R0		Choke Coil
L702	EQL0003-1R0		"

Integrated Circuits

Item No.	Part Number	Rating	Description	Maker
IC501	VC5022-2		I.C.	Sanyo
IC502	VC5022-2		"	"
IC701	TA7317P		"	Toshiba

Diodes

Item No.	Part Number	Rating	Description	Maker
D501	1S2076-31		Silicon	Hitachi
D502	1S2076-31		"	"
D503	1S2076-31		"	"
D504	1S2076-31		"	"
D505	1S2076-31		"	"
D506	1S2076-31		"	"
D507	1S2076-31		"	"
D508	1S2076-31		"	"
D509	RD2.7EB2		" (Zener)	NEC
D510	RD2.7EB2		" (")	"

Capacitors

Item No.	Part Number	Rating	Description
C503	QFP31HJ-472	4700pF	Polypropylene
C504	QFP31HJ-472	"	"
C505	QFS82BJ-680	68pF	Polystyrene
C506	QFS82BJ-680	"	"
C507	QFS82BJ-330	33pF	"
C508	QFS82BJ-330	"	"
C509	QFM81HJ-123	0.012μF	50V Mylar
C510	QFM81HJ-123	"	"
C511	QFM81HJ-104	0.1μF	"
C512	QFM81HJ-104	"	"
C513	QFM81HJ-102	1000pF	"
C514	QFM81HJ-102	"	"
C515	QFM81HJ-102	"	"
C516	QFM81HJ-102	"	"
C703	QET51HR-226H	22μF	Electrolytic
C704	QET51CR-226H	"	"
C705	QET51HR-474H	0.47μF	50V Mylar
C706	QFM81HJ-153	0.015μF	Electrolytic
C707	QET51AR-476H	47μF	10V
C708	QET51AR-476H	"	"

Capacitors

Item No.	Part Number	Rating		Description
C709	QFM81HJ-102	1000pF	50V	Mylar
C711	QFM81HJ-104	0.1μF	"	"
C712	QFM81HJ-104	"	"	"
C713	QFM81HJ-104	"	"	"
C714	QFM81HJ-104	"	"	"
C715	QFM81HJ-103	0.01μF	"	"
C716	QFM81HJ-103	"	"	(for W.Germany) Mylar
C717	QFM81HJ-103	"	"	(for W.Germany) Mylar
C718	QFM81HJ-103	"	"	(for W.Germany) Mylar
C751	EEW6303-568	5600μF	"	Electrolytic
C752	EEW6303-568	"	"	"
C753	EEW6302-688	6800μF	"	"
C754	EEW6302-688	"	"	"
C757	QFZ0074-224	0.22μF	"	Metallized Mylar
C758	QFZ0074-104	0.1μF	"	"
C759	QET51HR-105H	1μF	50V	Electrolytic

Resistors

Item No.	Part Number	Rating		Description
R501	QRD141J-473S	47kΩ	1/4W	Carbon
R504	QRD141J-473S	"	"	"
R505	QRD149J-331S	330Ω	"	UNF. Carbon △
R506	QRD149J-331S	"	"	"
R507	QRD149J-222S	2.2kΩ	"	"
R508	QRD149J-222S	"	"	"
R509	QRD149J-271S	270Ω	"	"
R510	QRD149J-271S	"	"	"
R513	QRD149J-470S	47	"	"
R514	QRD149J-470S	"	"	"
R517	QRD141J-151S	150Ω	"	Carbon
R518	QRD141J-151S	"	"	"
R519	QRD141J-391S	390Ω	"	"
R520	QRD141J-391S	"	"	"
R521	QVZ3501-471	470Ω	"	Variable
R522	QVZ3501-471	"	"	"
R523	QRD141J-431S	430Ω	1/4W	Carbon
R524	QRD141J-431S	"	"	"
R525	QRD149J-471S	470Ω	"	UNF. Carbon △
R526	QRD149J-471S	"	"	"
R527	QRD149J-471S	"	"	"
R528	QRD149J-471S	"	"	"
R529	QRD149J-471S	"	"	"
R530	QRD149J-471S	"	"	"
R531	QRZ0052-821	820Ω	"	Fusible △
R532	QRZ0052-821	"	"	"
R533	QRZ0052-471	470Ω	"	"
R534	QRZ0052-471	"	"	"
R539	QRZ0052-121	120Ω	"	"
R540	QRZ0052-121	"	"	"
R541	QRZ0052-100	10Ω	"	"
R542	QRZ0052-100	"	"	"
R543	QRZ0052-100	"	"	"
R544	QRZ0052-100	"	"	"
R545	QRZ0001-R22	0.22Ω	"	Cement △
R546	QRZ0001-R22	"	"	"
R547	ERZ0001-R22	"	"	"
R548	ERZ0001-R22	"	"	"
R549	QRZ0052-100	10Ω	"	Fusible △
R550	QRZ0052-100	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R551	QRZ0052-100	10Ω	1/4W	Fusible △
R552	QRZ0052-100	"	"	"
R553	QRD141J-103S	10kΩ	"	Carbon
R554	QRD141J-103S	"	"	"
R555	QRD141J-103S	"	"	"
R556	QRD141J-103S	"	"	"
R561	QRD141J-820S	82Ω	"	"
R562	QRD141J-820S	"	"	"
R563	QRD141J-820S	"	"	"
R564	QRD141J-820S	"	"	"
R565	QRD148J-111S	110Ω	"	"
R566	QRD148J-111S	"	"	"
R567	QRD148J-111S	"	"	"
R568	QRD148J-111S	"	"	"
R569	QRD148J-151S	150Ω	"	"
R570	QRD148J-151S	"	"	"
R571	QRD148J-131S	130Ω	"	"
R572	QRD148J-131S	"	"	"
R701	QRD141J-222S	2.2kΩ	"	"
R702	QRD141J-222S	"	"	"
R703	QRD141J-183S	18kΩ	"	"
R704	QRD141J-183S	"	"	"
R705	QRD141J-333S	33kΩ	"	"
R706	QRD141J-333S	"	"	"
R707	QRD141J-103S	10kΩ	"	"
R708	QRD141J-473S	47kΩ	"	"
R709	QRD141J-332S	3.3kΩ	"	"
R718	QRD141J-123S	12kΩ	"	"
R719	QRD141J-563S	56kΩ	"	"
R720	QRD141J-563S	"	"	"
R721	QRD141J-273S	27kΩ	"	"
R722	QRD141J-273S	"	"	"
R723	QRD141J-333S	33kΩ	"	"
R724	QRD141J-334S	330kΩ	"	"
R725	QRD141J-683S	68kΩ	"	"
R726	QRD141J-683S	"	"	"
R727	QRD141J-273S	27kΩ	"	"
R728	QRD149J-270S	27Ω	"	UNF. Carbon △
R729	QRG027J-471	470Ω	2W	Oxide Metal Film △
R730	QRG017J-271S	270Ω	1W	"
R731	QRD141J-103S	10kΩ	1/4W	Carbon
R732	QRD141J-123S	12kΩ	"	"
R733	QRD129J-330	33Ω	1/2W	UNF. Carbon △
R734	QRD129J-330	"	"	"
R735	QRX017J-4R7S	4.7Ω	1W	Metal Film △
R736	QRX017J-4R7S	"	"	"
R737	QRZ0052-100	10Ω	1/4W	Fusible △ (for W. Germany)
R738	QRZ0052-100	"	"	Fusible △ (for W. Germany)
R739	QRZ0052-100	"	"	Fusible △ (for W. Germany)
R740	QRZ0052-100	"	"	Fusible △ (for W. Germany)
R741	QRD141J-103S	10kΩ	"	Carbon
R751	QRD141J-563S	56kΩ	"	"
R752	QRD141J-563S	"	"	"
R753	QRD141J-103S	10kΩ	"	"
R754	QRD141J-822S	8.2kΩ	"	"
R755	QRD141J-104S	100kΩ	"	"
R756	QRD129J-150	15Ω	1/2W	UNF. Carbon △
R757	QRD141J-103S	10kΩ	1/4W	Carbon
R758	QRD141J-682S	6.8kΩ	"	"
R759	QRD141J-222S	2.2kΩ	"	"
R760	QRD149J-4R7S	4.7Ω	"	UNF. Carbon △

△ : Safety Parts

Thermistors

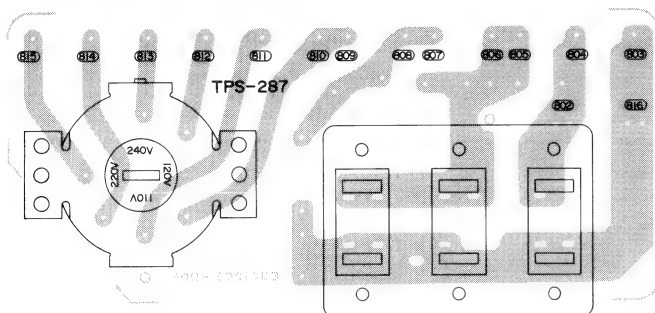
Item No.	Part Number	Rating	Description
			Maker
R515	ERT-D2WFL351S		Matsushita
R516	ERT-D2WFL351S		"
R557	ERT-D2WFL351S		"
R558	ERT-D2WFL351S		"
R559	ERT-D2WFL351S		"
R560	ERT-D2WFL351S		"

Others

Item No.	Part Number	Rating	Description
	E10696-001 E67294-003 E302102-001 E302102-002 LPSP3012N		Circuit Board Leaf Spring Heat-sink bracket Heat-sink bracket Screw
J501	SBSB3008CC SBSE3012CC E300209-010 E04365-007		Screw (coppered) Screw (") Heat-sink Formed Wire Socket Speaker Terminal
J702	EMB00TP-801A		
P501	E03628-5UD		5 Pin Plug
P701	QMV5005-006		6P Plug Assy
P702	QMV5005-002		2P Plug Assy
S701	QSS6401-501		Slide Switch
RY701	ESK5D24-214		Relay

7-(4) TPS-287C AC Unit P.C. Board Ass'y

[for U.S.A. and Canada]

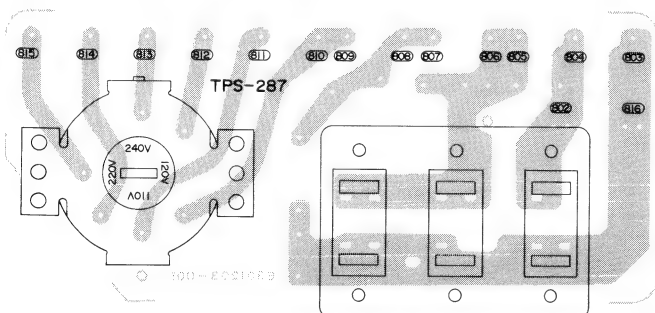


Item No.	Part Number	Rating	Description
C001	QCZ9014-103A QMC0637-004 QSR0085-001 E301203-003	0.01 μ F	Ceramic Capacitor Δ AC Outlet Δ Voltage Selector Δ Circuit Board

Fig. 12

7-(5) TPS-287D AC Unit P.C. Board Ass'y

[for U.S. Military Market and Other Countries]

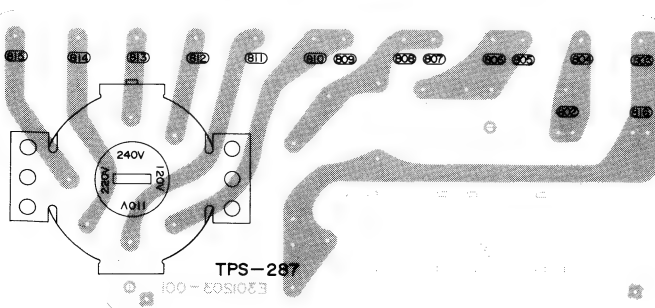


Item No.	Part Number	Rating	Description
C001	QFZ9010-103 QMC0637-004 QSR0085-001U E301203-003	0.01 μ F	Metalized Mylar Capacitor Δ AC Outlet Δ Voltage Selector Δ Circuit Board

Fig. 13

7-(6) TPS-287E AC Unit P.C. Board Ass'y

[for Europe, Australia, U.K. and West Germany]



Item No.	Part Number	Rating	Description
C001	QFZ9010-103 QSR0085-001U E47448-001 E301203-001	0.01 μ F	Metalized Mylar Capacitor Δ Voltage Selector Δ Holder Circuit Board

Δ : Safety Parts

Fig. 14

8. Packing Materials and Part Numbers

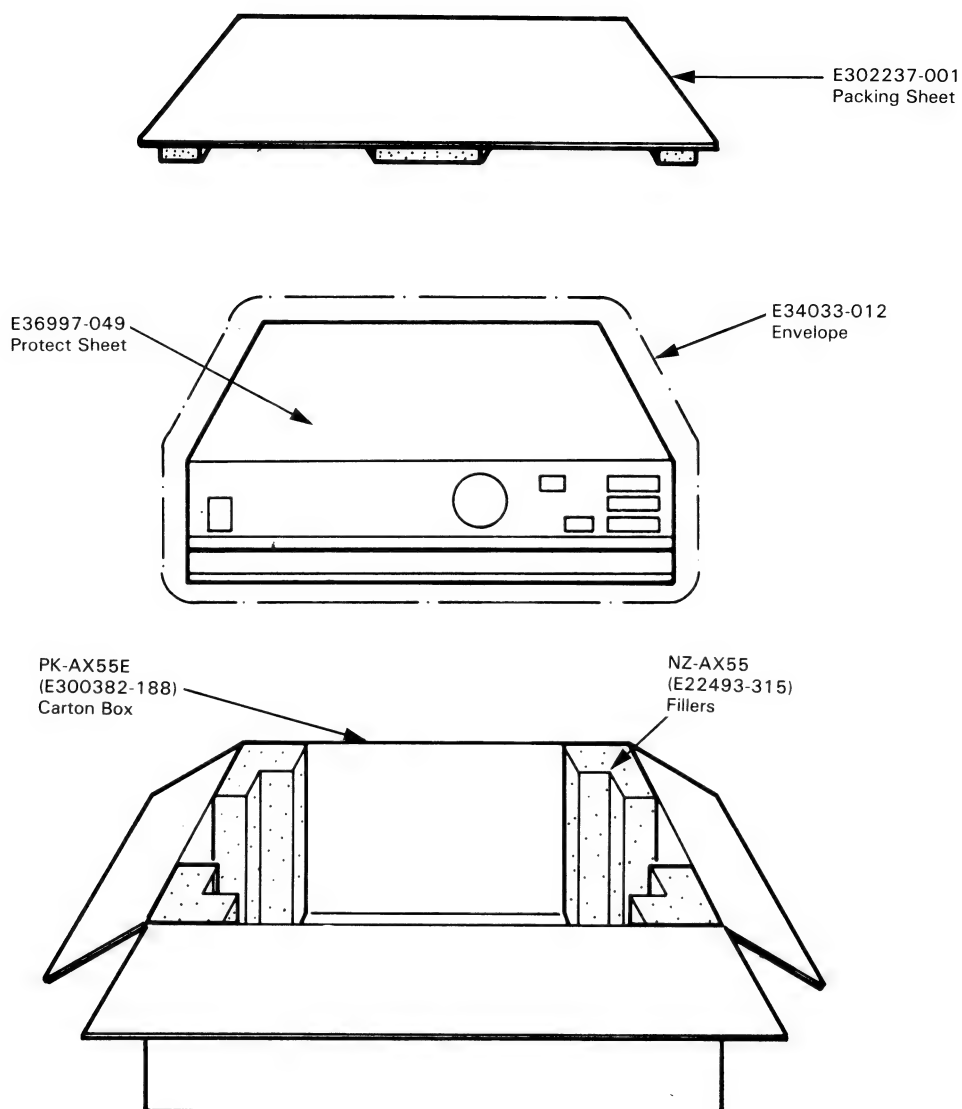


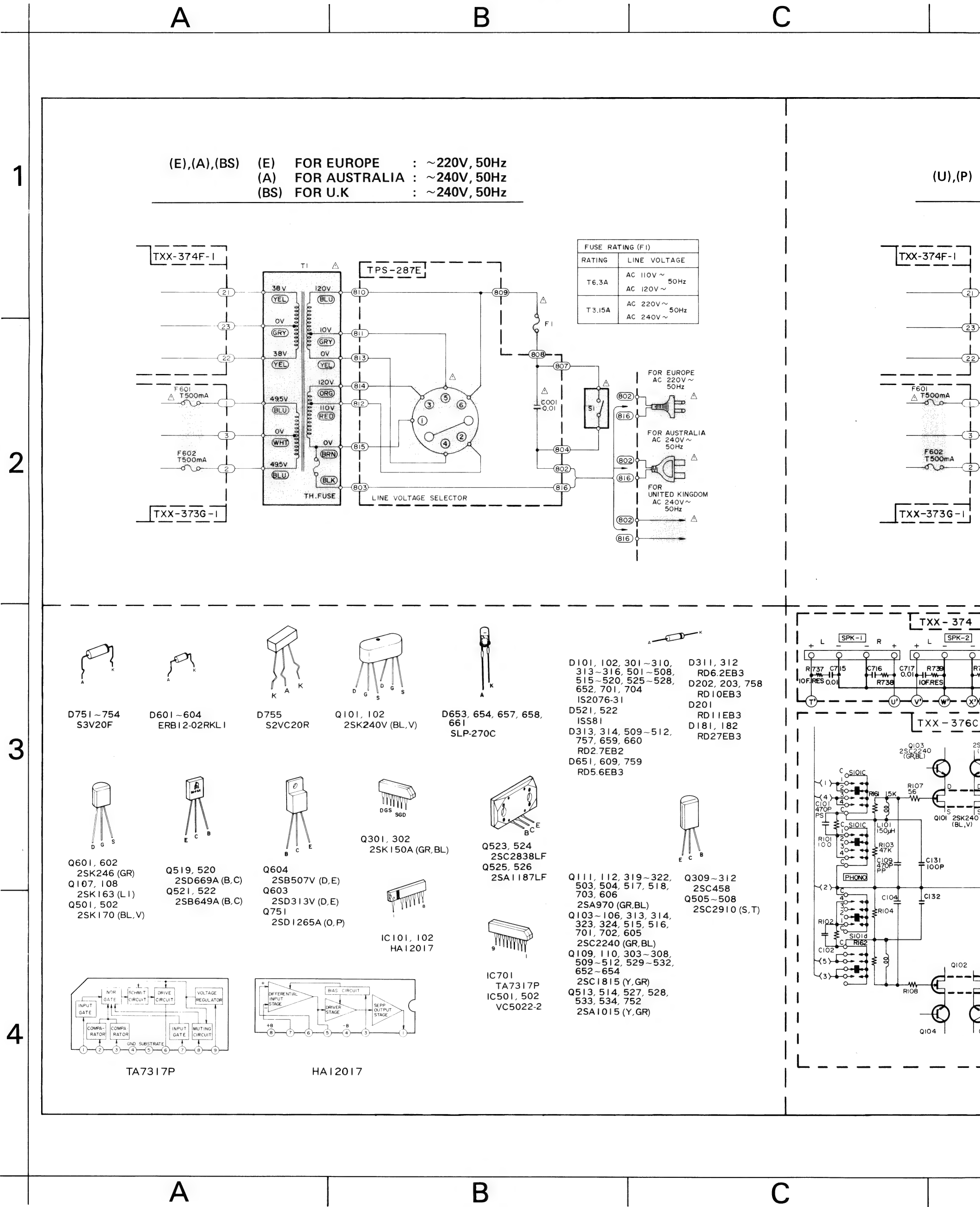
Fig. 15

9. Accessories List

Note: Instruction Book (Dutch & Spanish) for Europe and Other Countries E30580-1036A

Item No.	Part Number	Description	Q'ty
1	E30580-981A	Instruction Book	1
2	See page 22	Warranty Card	1
3	QMF51A2-6R3S (6.3A) or QMF51A2-3R15S (3.15A)	Fuse Primary (for U.S. Military Market and Other Countries)	1
4	E67142-T6R3 (6.3A) or E67142-T3R15 (3.15A)	Fuse Label (for U.S. Military Market and Other Countries)	1
5	BT20046A	Service Information Card (for U.S.A. and U.S. Military Market)	1
6	BT20044B	Safety Instruction Sheet (for U.S.A. only)	1
7	E41202-2	Envelope for Instruction Book and Warranty Card	1
8	E64208-001	Envelope for Fuse (for U.S. Military Market and Other Countries)	1

11. Power Supply Block for Designated Areas



A

B

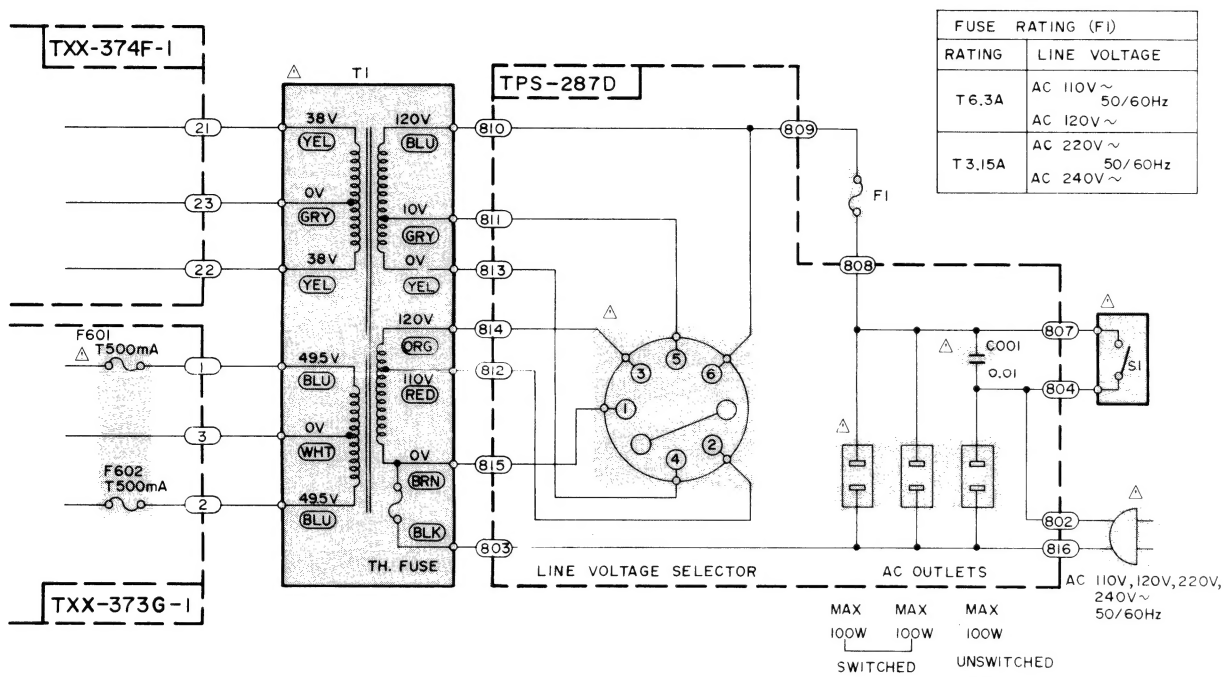
C

D

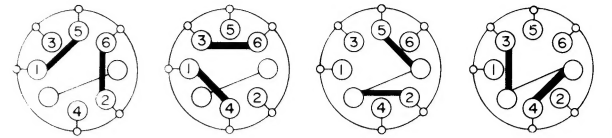
E

F

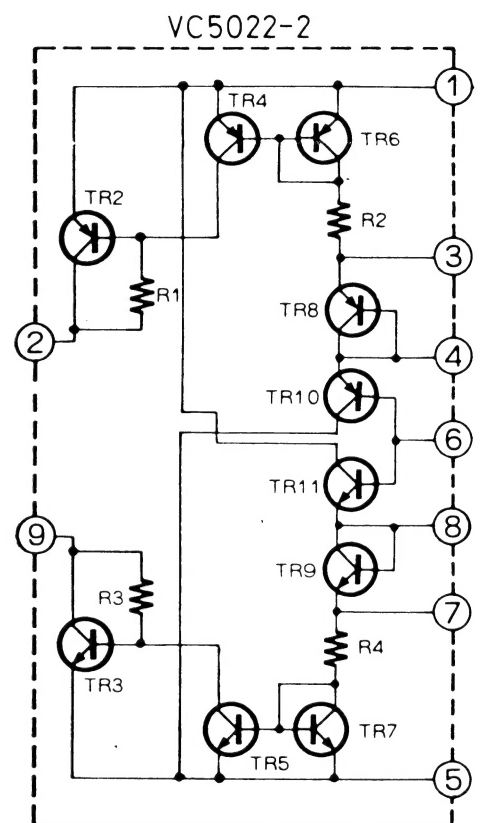
(U),(P) (U) FOR OTHER COUNTRIES
(P) FOR U.S. MILITARY MARKET



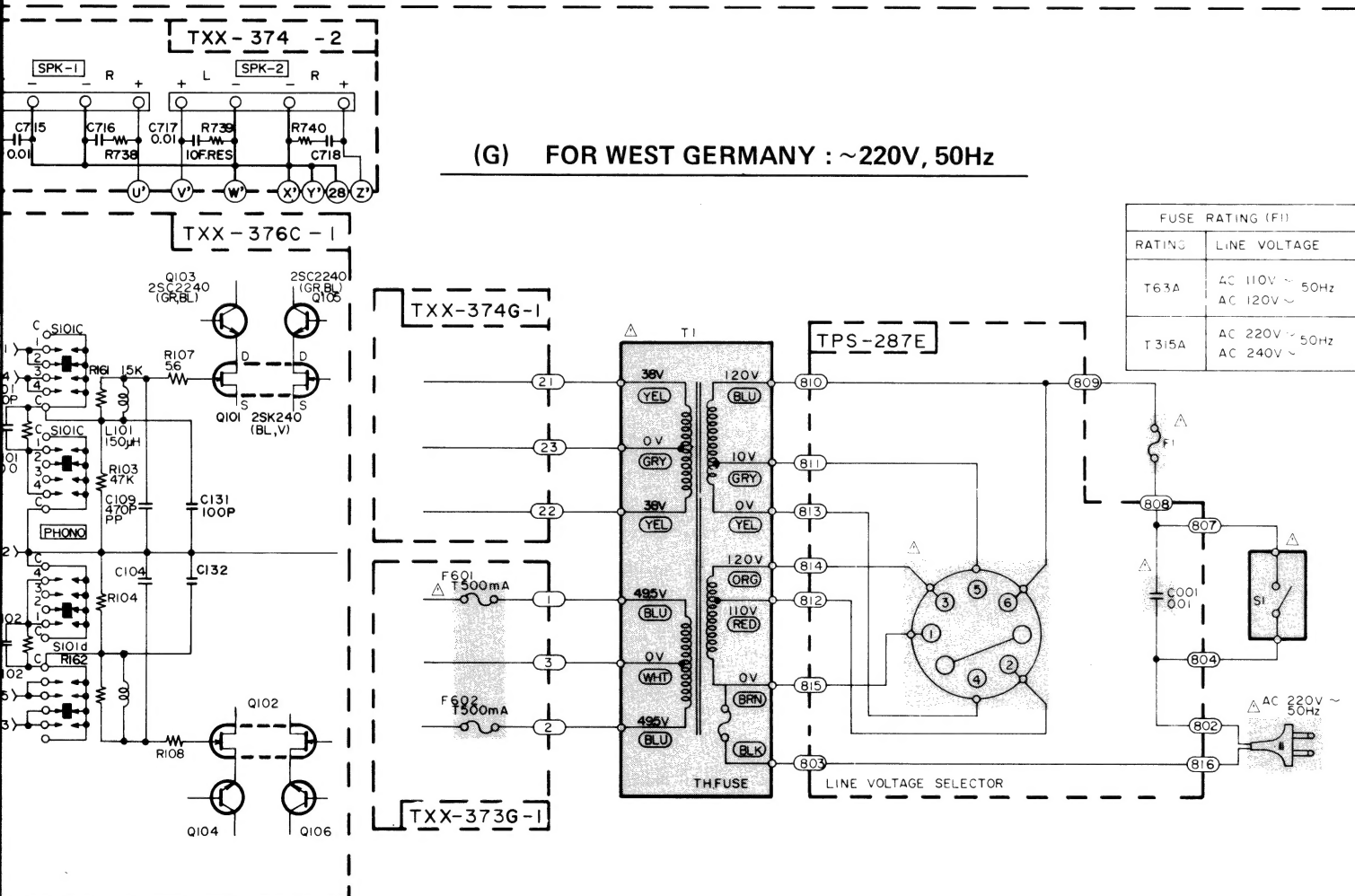
VOLTAGE SELECTOR CONNECTION



TOP VIEW



(G) FOR WEST GERMANY : ~220V, 50Hz



D

E

F

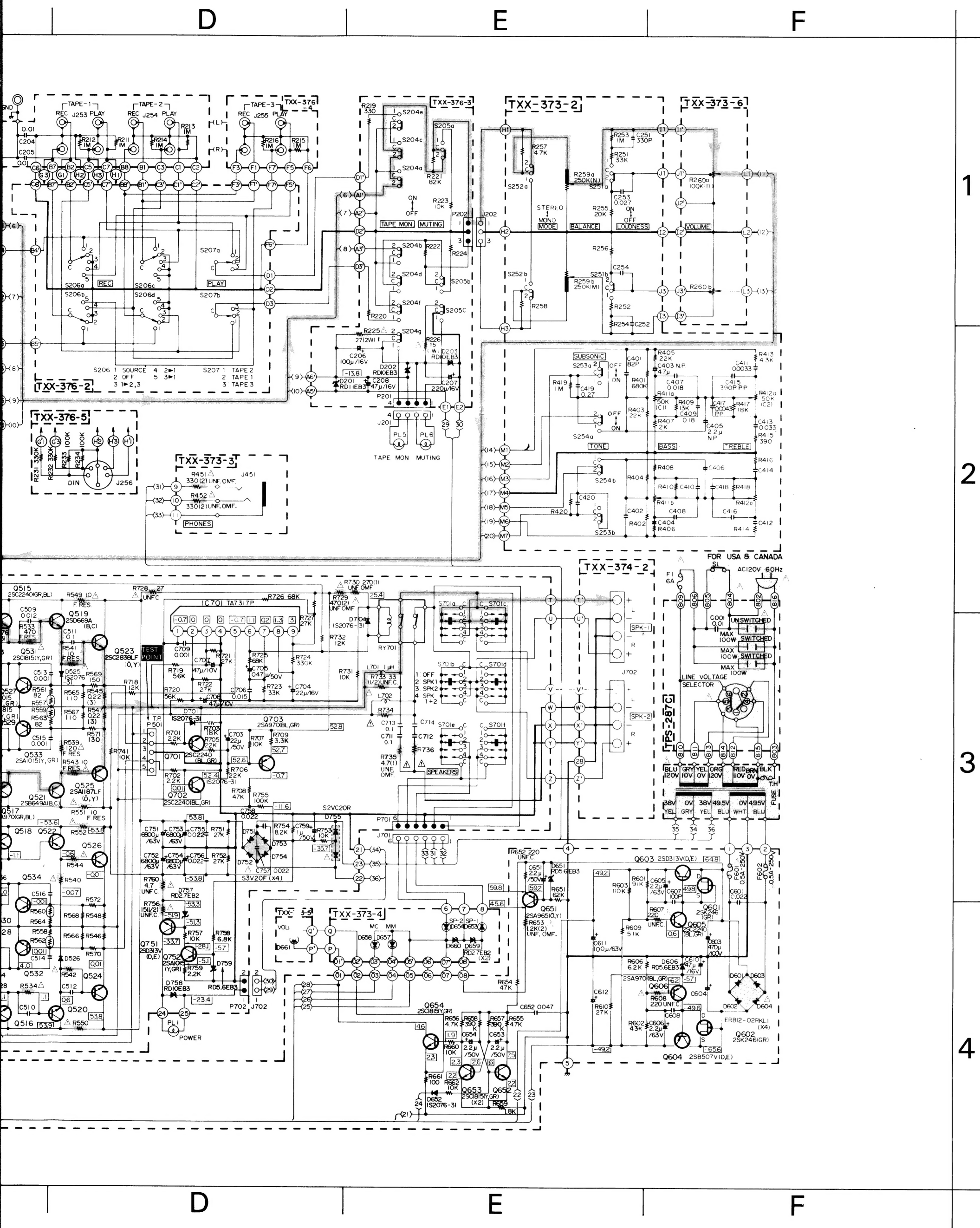
C



6. Parts in red indicate transistors or ICs.

7. This is the standard circuit diagram.

The design and contents are subject to change without notice.











ate transistors or ICs.
ard circuit diagram.
contents are subject to change without

Printed Circuit Board Ass'y Location

P.C. Board Ass'y	Description	Page
TXX-376	Equalizer Amp. P.C. Board Ass'y	9
TXX-373	Drive Amp. P.C. Board Ass'y	12
TXX-374	Power Amp. P.C. Board Ass'y	15
TPS-287C	AC Unit P.C. Board Ass'y	18
TPS-287D	"	18
TPS-287E	"	18

12. Parts List with Specified Number for Designated Areas

Item No.	Description	U.S.A. & Canada	Europe & West Germany	Australia	U.K.	U.S. Military Market & Other Countries
1	Power Switch 	QSP1110-310	QSP1106-002	QSP1106-002	QSP1106-002	QSP1106-002
2	Switch Cover	—	E67520-002	—	E67520-002	E67520-002
3	AC Cover	—	E302104-001	E302104-001	E302104-001	—
4	Power Cord 	QMP1200-200	QMP3900-200	QMP2560-244	QMP9017-008	QMP1200-200
5	Siemens Plug 	—	—	—	—	E04056
6	Fuse Socket 	QMG0201-003	QMG0301-003	QMG0301-003	QMG0301-003	QMG0301-003
7	Fuse Primary 	QMF61U1-6R0 (6A 120V)	QMF51A2-3R15S (3.15A 220V/240V)	QMF51A2-3R15S (3.15A 220V/240V)	QMF51A2-3R15S (3.15A 220V/240V)	QMF51A2-6R3S (6.3A 110/120V)
8	Fuse Secondary 	QMF51U2-R50 (0.5A)	QMF51A2-R50L (0.5A)	QMF51A2-R50L (0.5A)	QMF51A2-R50L (0.5A)	QMF51A2-3R15S (3.15A 220V/240V)
9	Fuse Cover	—	E69291-001	E69291-001	E69291-001	—
10	Rear Panel	E24085-003	E24085-004	E24085-004	E24085-004	E24085-005
11	Voltage Selector 	QSR0085-001	QSR0085-001U	QSR0085-001U	QSR0085-001U	QSR0085-001U
12	Mask Plate for Voltage Selector	E67451-001	—	—	—	—
13	AC Outlet 	QMC0637-004	—	—	—	QMC0637-004
14	Mask Plate for AC Outlet	—	E65494-003	E65494-003	E65494-003	—
15	Warranty Card	BT20048 (for U.S.A.) BT20025E (for Canada)	BT20054-002A (for W.Germany Only)	BT20029B	BT20013C	BT20048 (for U.S.Military Market Only)

Note :  Safety parts

POWER SPECIFICATIONS

Areas	Line Voltage & Frequency	Power Consumption
U.S.A. & CANADA	AC 120 V, 60 Hz	360 watts, 430 VA
EUROPE, W. GERMANY U.K. & AUSTRALIA	AC 110/120/220/240 V~ Selectable, 50 Hz	470 watts
OTHER AREAS	AC 110/120/220/240 V~ Selectable, 50/60 Hz	470 watts